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SOURCES OF ENGINEERING INFORMATION

By
BLANCHE H. DALTON

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PREFACE

THIS COMPILATION is the revised edition of a syllabus originally written to be used with lectures on the use of the library presented for Engineering, faculty members and graduate students of the University of California who wished to learn how to make effective use of library facilities when engaged in research.

A very real need has existed for a compilation listing source material for American engineers and librarians. The engineering field, unlike that of chemistry, has not been adequately covered for American libraries. British source material in this field has been well described by A. D. Robert's Guide to Technical Literature (1939), and by J. E. Holmstrom's Records and Research in Engineering and Industrial Science (1940). Although these two works include some information on American sources, the emphasis is on British libraries and British publications.

Entries for serials have been patterned after those used in the Union List of Serials, for it was assumed that more libraries possess the Union List than a Union catalog or use Library of Congress catalog cards.

Grateful acknowledgement is made to Mrs. Marion V. Herr, Miss Laura Wilson, and Mr. Samuel Rothstein who proofread the manuscript and checked the entries. Their work has given the compiler more assurance of accuracy and uniformity. Since it has not always been possible to examine each reference cited, corrections are welcomed and suggestions for additions to the lists solicited.

It is hoped that this guide will be of help to those engineers, always pressed for time, who must find short cuts to printed research materials and to those librarians whose technical collections present difficult reference problems.

January, 1948

Berkeley, California

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Engineering Librarian

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I. INDEXES TO PERIODICAL AND SERIAL LITERATURE

Index serials (those which appear or have appeared regularly) are compilations of references only, generally including author's name, title of article, and name of the journal in which it appeared. The subject of the paper is indicated only by the subject heading assigned if the index serial contains a subject arrangement or a subject index.

Journals which give lists of current literature in the field are too numerous to mention here.

Listed below are index serials which are (with abstracting journals) indispensable in compiling bibliographies, finding references, and obtaining current information in a particular field of study.

General

Bibliographie der deutschen zeitschriften-literatur. Leipzig. 1, 1896+ (Contains many references to technical subjects.)

Bibliographie des sciences et de l'industrie revue de librairie et d'information. Paris. 1898+ (Eight numbers issued annually. Pt. I deals with books, both French and foreign; Pt. II. with French periodical literature.)

Bibliographie scientifique française. (Bureau français du Catalogue international de la littérature scientifique) Paris. 1, 1902||

Documentation technique, revue mensuelle de la presse technique mondiale. Paris. v. 1, no. 1, January 1930||?

Fédération internationale de documentation, Brussels. Index des données techniques entrées dans les répertoires de l'Institut. Brussels. no. 1—9, 1925—30. (Superseded by Repertorium technicum)

Giornale di bibliografia tecnica internazionale. Bologna. 1925+

Industrial arts index. 1913+ (Monthly issues are superseded each year by a bound volume. No author index and no indication of the contents of the articles indexed. Subject index only. Not so much foreign material as the Engineering Index, although small items excluded by that work are included. The Monthly issues have some useful notes on new books and periodicals at the beginning of the listings)

Nederlandsch instituut voor documentatie en registratuur. Publicatie. The Hague. no. 51, 1930+

Pacific aeronautical library, Hollywood, Calif. Index card service, 1941?+ (A service originally given to aircraft companies and recently expanded to include other institutions. Emphasis is on aerodynamics and aeronautics, but some general technical articles are included)

Repertorium der technischen journal-literatur. Berlin; Leipzig, 1823—1908|| (Superseded by Fortschritte der technik which is listed in the Abstract Section, below)

Repertorium technicum: bibliographie internationale bimestrielle de livres et d'articles périodique sur des sujets industrielles. The Hague. 1, 1931+ (Classified by the Universal Decimal System. Entries number some 40,000 each year)

Subject index to periodicals. London. 1915+ (Although this is usually considered a general index, there are some references to technical subjects)

General: (cont.)

Technische zeitschriftenschau mit bücherschau. Berlin. 1916+ (International in scope and classified. Two issues each month with a good annual index)

Aeronautics

Gt. Brit. Stationery office. List of non-parliamentary publications on aeronautics. London, H. M. Stationery office, 1936+

Paris. Centre de documentation aéronautique internationale. Fiches aéronautiques. no. 1—100, 1928—32|| (Continued in *Aérophile*)

Recent aeronautical literature. (Beechcraft aircraft corporation) Wichita, Kansas. 1, 1943+

U. S. Library of congress. Division of aeronautics. Subject index to aeronautical periodical literature and reports. Washington, D. C. 1938+

U. S. National advisory committee for aeronautics. Bibliography of aeronautics. Washington, D. C. 1909+ (In dictionary form with references from subjects to authors)

Agriculture:

Agricultural index. N. Y. 1916+

U. S. Dept. of agriculture. Agricultural chemistry and engineering bureau. Current literature in agricultural engineering. 1931—41.

U. S. Dept. of agriculture. Library. Bibliography of agriculture. Section B. Agricultural engineering. Washington, D. C. 1941+

Chemistry:

Bibliographia chimica: Internationaler literatur-anzeiger. Leipzig. 1—5, 1922—26|| (Supplement to Deutsche chemische gesellschaft. Berichte. Continued in *Chemisches zentralblatt*)

International catalogue of scientific literature. Section D. Chemistry. London. 1901—17||

Electrical engineering:

Consolidated Edison company of New York, inc. Library bulletin. 1929+

Library service (General electric company) Schenectady, N. Y. 1, 1925+

Electronics:

Electronic engineering master index. N. Y. 1945+

Highway engineering:

U. S. Bureau of public roads. Library. Highways; current literature. Washington, D. C. 1921+

Hydrology:

American geophysical union. Section of hydrology. Annual bibliography of hydrology of the United States. Washington, D. C. 1935+

Illumination:

Special libraries association, New York. Committee on illumination. Bibliography of illumination. 1926+

Mechanical engineering:

International catalogue of scientific literature. Section B. Mechanics.
London. 1901—14||

Metals:

Jern-kontorets annaler, tidskrift för svenska bergshadteringen. Stockholm, v. 1—29, 1817—45; n.s. v. 1—92, 1846—1937; v. 122, 1938+

Mining:

Canada. Dept. of mines and resources. Mines and geology branch. Catalogue and index of mines branch reports. 16th ed. 1937.

Mining world index of current literature. Chicago. 1—10, 1912—16||

U. S. Bureau of mines. Bureau of mines papers published in the technical press, January 1, 1938 to January 1, 1946. Washington, D. C., 1946?

Model basins.

London. Science museum. Science library. Current bibliography series. Quarterly bibliography of experimental tank work. 1935+

Petroleum industry and trade:

American association of petroleum geologists. Comprehensive index of A.A.P.G. publications, 1917—45. Tulsa, Okla., The association, 1947.

Tulsa, Okla. Public library. Technical department. Petroleum bibliography. 1, 1942+

Physics:

International catalogue of scientific literature. Section C. Physics.
London. 1901—14||

Rubber:

Cable, Donald E. Bibliography of rubber literature. N. Y., The Rubber age, 1935+ (Annual)

Water:

Gt. Brit. Department of scientific and industrial research. Water pollution research laboratory. Water pollution research: Summary of current literature. London, H. M. Stationery office, 19?+

Television:

Radio corporation of America. RCA laboratories, Princeton, N. J. Television, a bibliography of technical papers by RCA authors, 1939—46. Princeton, N. J., RCA review, 1946.

II. ABSTRACTS

An abstract or digest service is any service which periodically publishes annotated citations to current literature appearing in any given field. The annotations may be an outline, a critical summary, or a long review of the contents of a monograph or a journal article. The primary purpose of an abstract or digest service is to furnish information on the contents of monographs or journal articles. Because of their relatively more expensive publication costs, abstracting and digesting are selective, although some of the well-established services include subjects not specifically in their own fields (e.g., Chemical abstracts, Engineering index).

These bibliographical aids are invaluable for research. In using them, however, the following should be noted.

1. Abstracts and digests are secondary sources. They should never be used in place of the original article itself, nor should the user accept the information given as being complete, although concise. What points are brought out in the annotation depend on the interests of the person who wrote the review. He may give emphasis to parts of the article abstracted and neglect others.
2. There is usually a time-lag between the appearance of the original article and its abstract. This is particularly true of those in foreign languages. Sometimes a year or more elapses before an article is indexed. Therefore, in searching for a certain reference where the date or possible date is known, do not neglect the later volumes if the reference cannot be found in the first volume consulted.
3. Each abstract or digest service has a peculiarity of arrangement of its own. Authors and subjects may be combined in one alphabet. Subject indexes may be classified like those to Sections A and B of Science Abstracts. If the abstracts themselves are classified by the Universal Decimal System, there may be an index of class numbers, etc. Therefore, before using an abstract journal for the first time, read its preface or foreword for an explanation of its system of arrangement. This will save time in the long run.

Abstracts appear in two kinds of journals, those presenting exclusively abstracts or digests and those whose contents consist partly of abstracts and partly of original articles. Some institutions maintain an abstract service which appears currently on index cards issued usually to a member of the society or association only. Many large companies compile and maintain their own abstracts. Some abstracts in a particular field for a definite period of time may be found in book form. Lists of all kinds of these services follow.

ABSTRACTS, DIGESTS IN JOURNALS, AND INDEXES WITH ANNOTATIONS

General:

Association de documentation bibliographique, scientifique, industrielle et commerciale, Paris. Bulletin. 1, 1911+

Association of land-grant colleges and universities. Committee on engineering experiment stations. Engineering experiment station record. 1, 1921+

Australian science abstracts. (Australian national research council) Sydney. 1, 1922+ (17, 1938+ published as supplement to Australian journal of science)

General (cont.)

Bibliografia italiana. (Consiglio nazionale delle ricerche) Bologna. 1928+

Engineering abstracts. (International institutes of technical bibliography) London. 1—4, Ja. 1910—Mr. 1913||

Engineering index. N. Y. 1884+

Engineers' digest, N. Y. 1, 1943+

Engineers' digest; review of engineering progress abroad. London. 1, 1940+

Fortschritte der technik. Berlin. 1-2, 1909-10|| (Superseded by Engineering abstracts, London. 1-4, 1910-13)

Indian science abstracts. (National institute of sciences of India) Calcutta. 1935+

Institution of civil engineers, London. Engineering abstracts. nos. 1-76, 1919-1937||. In four parts: 1. Engineering construction. v. 1-2, 1938-39||. (Suspended for the duration of the war); 2. Mechanical engineering. v. 1-2, 1938-39||. (Suspended); 3. Shipbuilding and marine engineering. 1, 1938+ (Now published by Institute of marine engineers); 4. Mining engineering. v. 1-2, 1938-39||. Formerly, these abstracts appeared in the Proceedings of the Institution from 1875 to 1916.

Japanese journal of engineering. (National research council of Japan) Tokyo. Abstracts. 1, 1921+

Massachusetts institute of technology. Abstracts of scientific and technical publications. No. 1-9, 1928-1932||.

Novosti tekhnicheskoi literatury. Moscow. 1, 1924+ (In six sections: mineral industries, geology, power engineering, chemical engineering, metallurgy, building)

Science abstracts. (American physical society, etc.) London; N. Y. 1-5, 1898-1902|| (Supersedes Physical society of London. Science abstracts of physical papers from foreign sources. 1-3, 1895-97)

Technical review. (Gt. Brit. General staff) London. 1-9, 1918-21||

Teddington, England. National physical laboratory. Abstracts of papers published in the year 1936. London, H. M. stationery office, 1937.

U. S. Army air forces. Material command. Air documents index. Wright Field, Dayton, O. (An index, appearing on cards, to captured German scientific documents. The title of each publication is translated and abstracts appear for each title in English. Certain libraries, institutions, laboratories, government offices and corporations have been designated as depository agencies)

U. S. Office of technical services. Bibliography of scientific and industrial reports. Washington. v. 1, no. 1, Jan. 11, 1946+ (An index to publications of supported war research projects. Brief descriptions. A bibliography and index to OSRD reports, converting PB numbers to OSRD numbers was published in 1947)

Agricultural engineering:

Experiment station record. (U. S. Dept. of agriculture) Washington, D. C. 1, 1889+

Aeronautics:

Gt. Brit. Ministry of supply. Index aeronauticus. London. v. 1, 1946+

Aeronautics (cont.)

Institution of civil engineers, London. Journal. Supplement—Aerodrome abstracts. v. 1, 1942+

Asphalt.

Asphalt institute, New York. Quarterly digest of current asphalt literature. 1926+

Automobiles:

Austin technical news, abstracts from the world's scientific and technical press. Birmingham?, Eng., Austin motor co., ltd. 1, 1942+

Automotive abstracts. Cleveland, O. 1-12, 1923-1934||

Cement, see Concrete:Ceramics:

Ceramic abstracts. (American ceramic society) Easton, Pa. 1, 1922+ (1919-21 published in society's Journal)

Chemistry:

British chemical and physiological abstracts. A. Pure chemistry. (Chemical society, London) 1, 1926+

British chemical and physiological abstracts. B. Applied chemistry. (Society of chemical industry) London. 1, 1926+

Chemical abstracts. (American chemical society) Easton, Pa. 1, 1907+

Chemisches zentralblatt. Berlin. 1, 1830+

Chimie et industrie. (Société de chimie industrielle) Paris, Documentation. 1, 1918+ (1928+ also issued as a separate monthly journal as Extraits de chimie)

Deutsche chemische gesellschaft, Berlin. Berichte. Literatur-register der organischen chemie. v. 1-5, 1910/11 - 19/21|| (Merged into Chemisches zentralblatt)

Fortschritte der chemie, physik und physikalischen chemie. Leipzig. v. 1-21, 1909-1932|| (Supersedes Physikalisch-chemisches zentralblatt)

Khimisheskiĭ referativnyi zhurnal. Moscow. 1938+

Physikalisch-chemisches zentralblatt. Leipzig. 1-6, 1903-09|| (Superseded by Fortschritte der chemie)

Review of physical chemistry of Japan with complete abstracts of the physico-chemical literature of Japan. Kyoto. 11, 1937+

Société chimique de France. Bulletin. Documentation. Paris. 1, 1933+

Angewandte chemie. (Deutsche gesellschaft für angewandte chemis. Verein deutscher chemiker) Berlin; Leipzig. 1, 1887+ (Before 1919 Chemisches zentralblatt published very few abstracts of technical articles. Hence, anyone wishing such material should refer to Angewandte chemie)

Civil engineering:

Garston, England. Building research station. Building science abstracts. 1, 1928+

Concrete:

American concrete institute. Committee on abstracts. Abstracts of the current literature of cement and concrete. 1930-33. (Continued by Current reviews section of the American concrete institute. Proceedings. v. 30, 1934+)

Electrical engineering:

Deutsches rundfunkschrifttum. (Reichsrundfunk-gesellschaft) Berlin. v. 1-7, 1930-36 || (Now published as a supplement to Rundfunk-archiv. 1, 1928+)

General electric company, Schenectady, New York. Lamp development laboratory. Abstract-bulletin. 1, 1913+

Science abstracts. Section B. Electrical engineering abstracts. (Institution of electrical engineers) London. 1, 1898+

Gas:

American gas association, Easton, Pa. Bulletin of abstracts. 1-24, 1907-30 ||

Geophysics:

U. S. Bureau of mines. Geophysical abstracts. Washington. 1-86. (#87-111 published in U. S. Geological survey. Bulletin. Bulletin 939 A, B, C and D, 1943 last one published)

Highway engineering:

Road abstracts. (Institution of municipal and county engineers, etc.) London. 1, 1934+ (Issued as a supplement to the society's journal)

Traffic engineering. (Institute of traffic engineering) New York. 3. 1931+

Marine engineering:

Institute of marine engineers, London. Engineering abstracts. Section 3. Shipbuilding and marine engineering. 1, 1938+

Materials testing:

Mitteilungen der deutschen materialprüfungsanstalten. Berlin. 1, 1928+

Mathematics:

Mathematical reviews. (American mathematical society; Mathematical association of America) Lancaster, Pa.; Providence, R.I. 1, 1940+

Mathematical tables and other aids to computation (National research council. Division of physical sciences) Washington, D. C. 1, 1943+

Revue semestrielle des publications mathématiques. (Wiskundig genootschap te Amsterdam) 1-39, 1893-1934 ||

Zentralblatt für mathematik und ihre grenzgabiete. Berlin. 1, 1931+

Mechanical engineering:

Zentralblatt für mechanik. Göttingen. 1933+

See also, Institution of civil engineers, London. Engineering abstracts.

Metals and metallurgy:

American society for metals. A. S. M. review of metal literature. Cleveland, O. 1, 1944+

Metals and metallurgy: (cont.)

Institute of metals, London. Metallurgical abstracts. 1931+

Metallurgical engineering digest, ferrous and non-ferrous. Pittsburgh. 2, 1931+ (Formerly part of Metals and alloys)

Nickel bulletin. (Mond nickel co., ltd.) London. 1, 1928+

Zinc development association. Zinc abstracts. Oxford, England, The association, 192+

Paint

National paint, varnish and lacquer association. Scientific section. Abstract review. Washington, D. C. 1928+

Paper.

Institute of paper chemistry (Lawrence College), Appleton, Wis. Library. Library notes. 1, 1930+?

Technical association of the pulp and paper industry. Committee on abstracts and bibliography. Contribution. N. Y. no. 1-42, 1916-1924||?

Petroleum

Universal oil products company, Chicago. Research laboratories. Library bulletin of abstracts. 1, 1926+

Physics:

Annalen der physik. Bleiblätter. Halle; Leipzig. 1-43, 1877-1919|| (Superseded in 1921 by Physikalische berichte)

Fortschritte der physik. (Deutsche physikalische gesellschaft) Berlin; Brunswick. 1-74, 1845-1918|| (Continued by Physikalische berichte)

Fortschritte der physik. Halbmonatliches literaturverzeichnis) 1-18, 1902-19|| (Deutsche physikalische gesellschaft) Berlin; Brunswick. (United with Annalen der physik. Bleiblätter. to form Physikalische berichte)

Physical society of London. Abstracts of physical papers from foreign sources. 1-3, 1895-97|| (Continued in Science abstracts)

Physikalische berichte. (Deutsche physikalische gesellschaft; Deutsche gesellschaft für technische physik) Brunswick. 1, 1920+

Science abstracts. Section A. Physics abstracts. London. 6, 1903+

Spectrochemical abstracts. London. 1, 1933/37+

Photography:

Eastman kodak company, Rochester, N. Y. Monthly abstract bulletin. 1, 1915+

Photographic abstracts. (Royal photographic society of Great Britain) London. 1, 1921+

Plastics:

Interessengemeinschaft Farbenindustrie aktiengesellschaft. I. G.

Farbenindustrie plastics file. U. S. Army air forces. Material command. Translation no. F-TS-2466-RE. 1947. (Patent abstracts and literature abstracts arranged by subject. New material to be published as supplements)

Mark, Hermann Franz and Proskauer, E. S. Abstract service—resins, rubbers, plastics. (Loose-leaf) N. Y., Interscience publishers, inc., 1942+

Refrigeration:

Refrigeration abstracts. (American society of refrigerating engineers)
N. Y. 1, 1946+

Rubber:

Hood rubber company, Watertown, Mass. Weekly technical abstracts.
1, 1927+

Research association of British rubber manufacturers. Croydon, Eng.
Summary of current literature. Rubber abstracts. 1923+

See Mark and Proskauer listed under Plastics, above.

Sanitary engineering:

Gt. Brit. Dept. of scientific and industrial research. Water pollution
research board. Water pollution research. Summary of current
literature. 1927+

U. S. Public health service. Public health engineering abstracts. Wash-
ington, D. C. 1, 1921+

Wasser und abwasser. Leipzig. 1, 1909+

Shellac:

London shellac research bureau. Abstracts bearing on shellac research
literature. London. 1928/33+

Textiles:

Textile institute, Manchester, Eng. Journal. 1, 1910+

Welding:

Welding literature review. London. 1, 1939+

ABSTRACT SECTIONS IN JOURNALS

General:

Cleveland scientific and technical institution, Middlesborough, England.
Bulletin. v. 1-6, 1921-26

Revue universelle des mines, de la métallurgie, des travaux publics,
des sciences et des arts appliqués à l'industrie. (Association des
ingénieurs sortis l'école de Liège) Liège. 1857+ (Section "Revue
des périodiques techniques" contains abstracts which are in classi-
fied order)

Aeronautics:

Aeronautical engineering review. (Institute of the aeronautical sciences)
N. Y. 1, Ap. 1942+ (Supersedes Journal of the aeronautical sciences.
Aeronautical review section. v. 8, Nov. 1940-v. 9, March 1942)

Aeronautical reader's guide. (Institute of the aeronautical sciences)
N. Y. v. 1, no. 1-4, 1940-41|| (Merged into Journal of the aeronauti-
cal sciences)

Archiv für luftrecht. (Institut für luftrecht) Berlin; Königsberg. 1,
1931+

Deutsche luftwacht. Berlin. Luftwissen. Zeitschrift für luftfahrttechnik
und forschung. 1, 1934+

Metropolitan-Vickers technical news bulletin. n.p., n.d.

Royal aeronautical society, London. Journal. 1, 1897+

Automobiles:

Automobiltechnische zeitschrift (ATZ). Beiblatt—Schriftumschau über die kraftverkehrstechnik. Berlin. 1938-1942||? (Abstracts are international in scope)

Institution of automobile engineers, London. Journal. 1, 1932+ (Some abstracts. Society's complete abstracting service not available to the public)

Ceramics:

American ceramic society. Journal. Easton, Pa. 1, 1918+ (From 1919—1921, Ceramic abstracts were published in the Journal)

British ceramic society. Transactions. Stoke-on-Trent, England. 1, 1901+

Céramique. Paris. 1, 1898+

Deutsche keramische gesellschaft, Berlin. Berichte. 1, 1920+

Keramos, zweimonatsberichte über die lage der deutschen keramischen industrie. Bamberg. 1, 1922+

Society of glass technology. Journal. Sheffield, England. 1, 1917+

Chemistry:

American dyestuff reporter. N. Y. 1, 1917+

Analyst. (Society of public analysts and other analytical chemists) London. 1, 1877+

Angewandte chemie. (Deutsche gesellschaft für angewandte chemie; Verein deutscher chemiker) Berlin; Leipzig. 1, 1887+ (Before 1919 Chemisches zentralblatt published very few abstracts of technical articles; hence anyone wishing such material should refer to this publication)

Annales de chimie analytique et de chimie appliqué et Revue de chimie analytique. (Société des chimistes français) Paris. 1-23, 1896-1918; series 2, v. 1, 1919+

Annales des falsifications et des fraudes. (Société des experts-chimistes de France) Paris. 1, 1908+ (Foreign and French literature abstracted)

Brennstoff-chemie. Essen. 1, 1920+ (Chemical research in fuels is covered with considerable thoroughness by the abstracts)

Chemical and metallurgical engineering. N. Y., 1, 1902+ (Foreign literature abstracts)

Chemical, metallurgical and mining society of South Africa, Johannesburg. Journal. 1, 1894+

Chemical society, London. Annual reports on the progress of chemistry. 1, 1904+

Chemical society, London. Journal. 1871-1925|| (For abstracts 1926+ see British chemical abstracts, A. Pure chemistry)

Chemiker-zeitung. Cöthen. 1, 1877+

Chimica e l'industria. (Associazione italiana di chimica; Federazione nazionale fascista degli industriali dei prodotti chimici) Milan. 1, 1919+

Chimie et industrie. (Société de chimie industrielle) Paris. 1, 1918+ (Contains few articles which occupy less than half the space, the balance being abstracts which were later separately published as "Documentation." This is probably the best source of information on French patents)

Chemistry (cont.)

Fette und seifen (Deutsche gesellschaft für fettforschung) Paris.
Chemische revue. 1, 1894+

Industrie chimique belge. (Fédération des industries chimiques de
Belgique) Brussels. 1-8, 1921-29, S2, v. 1, 1930+

Jahres-bericht über die leistungen der chemischen technologie. Leipzig.
1, 1855+

Japanese journal of chemistry. (National research council of Japan)
Tokyo. 1922-1929||

Journal de chimie physique et de physico-chimie biologique. (Société de
chimie physique) Geneva. 1, 1903+

Journal of physical chemistry. Ithaca, N. Y.; Baltimore, Md. 1, 1896+

Silikat-zeitschrift. Coburg. 1913-14||

Revue de chimie industrielle et le Moniteur scientifique de Quesneville.
Paris. 1, 1890+

Revue des produits chimiques et l'actualité scientifique réunies. Paris.
1, 1898+

Société chimique de France. Bulletin. 1858-1933|| (Abstracts from
1863 on. Down to 1892, the "Mémoires" and "Travaux" were published
together. In 1892, Abstracts of foreign papers were segregated and
issued in separate, even-numbered volumes each year until 1920.
Since 1920 all abstracts, both French and foreign have been in the
even-numbered volume. From 1933 on they have been issued sepa-
rately)

Society of chemical industry, London. Journal. 1, 1882+ (In 1926, the
abstract section became the British chemical abstracts. Section B)

Society of dyers and colourists, Bradford, England. Journal. 1, 1884+
(Abstracts from English and foreign journals and patents)

Zeitschrift für analytische chemie. Wiesbaden. 1, 1862+

Zeitschrift für physikalische chemie. Leipzig; Berlin. Abt. A.
(Chemische thermodynamik, kinetik, elektrochemie, eigenschafts-
lehre) 1, 1887+

Civil engineering:

Annales des ponts et chaussées. (France, Commission des Annales des
ponts et chaussées) Paris. 1, 1831+ (The "Compte rendu des
périodiques" contains abstracts)

Travaux: architecture, construction, travaux publics. Paris. 17, 1933+
(Short abstracts appear in the "Partie documentaire.")

Coal:

Colliery engineering. London. 1924+

Colliery guardian and journal of the coal and iron trades. London. S2,
v. 1, 1860+ (Abstracts in section headed "Current science and tech-
nology.")

Glueckauf. Essen. 1, 1865+

Electrical engineering:

Ateliers des constructions électriques de Charleroi. A.C.E.C.: revue
trimestrielle. Charleroi, Belgium. n.d.

Bell system technical journal. N. Y. 1, 1922+ (Abstracts of articles by
Bell system authors)

Electrical engineering: (cont.)

Centro volpi di elettrologia, Venice. Bulletin. 1, 1938+ (Abstracts of Italian papers with English translations)

Electrical world. N. Y. 1, 1883+ (Digest of electrical literature including brief abstracts of important articles)

Électricité: production, distribution, utilisation. Paris. 18, 1934+ (Abstracts classified by the Universal Decimal Classification appear in the Partie Documentaire)

Elektrotechnik und maschinenbau (Elektrotechnischer verein) Vienna. 1, 1883+

Elektrotechnische zeitschrift. (Elektrotechnischer verein) Berlin. 1, 1880+ (Contains a Rundschau containing abstracts classified by Universal Decimal Classification)

Revue generale de l'électricité. Paris. 1, 1917+ ("Documentation" arranged by Universal Decimal Classification)

Wireless engineer; a journal of radio research and progress. London. 1, 1923+

Fuel:

Power and fuel bulletin. (British national committee of the World power conference) v. 1-4, 1931-34||

Fuel in science and practice. (Coal research club) London. 1, 1922+

Hygiene:

Journal of industrial hygiene and toxicology. Cambridge, Mass. 1, 1919+

Industrial management:

Factory and industrial management. N. Y. (Engineering index was published in this periodical 1895-1918)

Instruments:

Messtechnik. Halle. 1, 1925+ (Has short abstracts which are international in scope)

Marine engineering:

Institute of marine engineers, London. Transactions. 1, 1889+ (Abstracts of shipbuilding and marine engineering before 1938)

Marine-rundschau. Berlin. 1, 1890+

Mathematics:

Bulletin des sciences mathématiques. Paris. S2, 1, 1877+

Jahrbuch über die fortschritte der mathematik. Berlin. 1, 1868+

Japanese journal of mathematics (National research council of Japan) Tokyo. 1, 1924+

Mechanical engineering:

Mécanique. (Société française des mécaniciens) Paris. 1933+ (Abstracts to which numbers of the Universal Decimal Classification have been added. Previously an edition of Science and industry)

Zentralblatt für mechanik. Göttingen. 1, 1933+

Metals and metallurgy:

- Alloy metals review. Widnes, England. 1, 1936+
- American society for metals. Transactions. Cleveland, O. 1, 1920+
- British cast iron research association. Bulletin. Birmingham, Eng. 1, 1923+
- Institute of metals, London. Journal. 1909+ ("Embraces the whole of nonferrous metallurgy after the metal has assumed the ingot form")
- Iron and steel institute, London. Journal. 1, 1871+ (Abstracts of all articles in foreign iron, steel and industries)
- Light metal age. Chicago, etc. v. 1, 1943+
- Light metals research. (British aluminum co., ltd. Intelligence dept.) London. 1-7, 1931—39||?
- Light metals review. (British aluminum co., ltd. Intelligence dept.) London. v. 1-5, 1934-1939||
- Metallurgie. Halle a. S. 1-9, 1904-1912||
- Metals and alloys. Easton, Pa. 1, 1929+ (Cumulative index of metallurgical abstracts published in v. 1-2, July 1929—Dec. 1931, of Metals and alloys)
- Nickel bulletin. Pittsburgh. 1, 1928+
- Revue de métallurgie. (Société d'encouragement pour l'industrie nationale; Comité des forges de France) Paris. 1, 1904+
- Zeitschrift für metallkunde. (Deutsche gesellschaft für metallkunde) Berlin. 1, 1911+

Military engineering:

- Royal engineers journal. (Gt. Brit. Corps of Royal engineers) Chatham. 1-34, 1870-1904; new series, v. 1, 1905+
- Zeitschriftensschau des Reichskriegsministeriums. n.d.

Mining:

- Engineering and mining journal. N. Y. 1, 1866+
- Metall und erz. Gesellschaft deutscher metallhütten und bergleute) Halle a. S. n.s. v. 1, 1912+ (Abstracts of metal mining literature)

Paper industry and trade:

- Paper trade journal. N. Y. 1, 1872+ (Pulp and paper industry literature—reviews)

Petroleum:

- Institute of petroleum, London. Journal. 1, 1914+ (Many abstracts. Separate sheets of abstracts sent with journal to cut up and paste on cards)
- Petroleum; zeitschrift für die gesamte interessen der erdöl-industrie. Vienna; Berlin. 1, 1905+
- Petroleum refiner. Houston, Texas. 1, 1922+

Physics:

- Jahrbuch der radioaktivität und elektronik. Leipzig. v. 1-20, 1904-24||
- Japanese journal of physics. (National research council of Japan) 1, 1922+ (Abstracts in English and German)

Physics (cont.)

Journal de physique et le radium. Paris. 1—10, 1872—81; . . . s. 6, 1920-29; s. 7, v. 1, 1930+

Plastics:

Kolloid-zeitschrift. Dresden; Leipzig. 1, 1906+

Modern plastics. N. Y. 1, 1925+ (Plastics digest)

Revue générale des colloïdes. Paris. 1-8, 1923-30||

Production engineering:

Werkstattstechnik und werksleiter. Berlin. 1, 1907+

Railroads:

Revue générale des chemins de fer. Paris. 1, 1878+

La Traction électrique. Paris. 1-5, 1929-34; 1935-37||?

Traction nouvelle. Paris. v. 1-4, 1936-39||?

Refrigeration.

International institute of refrigeration, Paris. Bulletin. 1-10, 1910-19; new series, v. 1, 1920+

Sugar:

Sugar. N. Y. 1, 1914+

Water-supply engineering:

American water works association. Journal. N. Y. 1, 1914+ (Engineering and non-chemical aspects of the water-supply problem covered more fully here than in Chemical abstracts)

ABSTRACTS IN MONOGRAPHS

Deitz, V. R. Bibliography of solid adsorbents. Washington, D. C., U. S. Bureau of standards, 1944.

Koenig, J. H. and Earhart, W. H. Literature abstracts of ceramic glazes. Chicago, Ceramic industry, 1942. (Divided into sections taking each publication individually, such as reports from the Journal of the American ceramic society from 1899 to 1940; Ceramic industry, 1923 to 1940; Transactions of the British ceramic society, 1901 to 1940; and 78 other periodicals and miscellaneous publications. Private company pamphlets are abstracted and patents are listed)

Lee, C. C. Waves and wave action. Vicksburg, Miss., The author, 1944+ (Loose-leaf)

McClelland, Elwood H., comp. Enamel bibliography and abstracts, 1928—1939. Columbus, O., American ceramic society, 1944.

National research council of Canada. Abstracts on synthetic rubber, by Muriel E. Whalley. Ottawa, The council, 1943? Pt. I. Articles; Pt. II. Patents.

Technical association of the pulp and paper industry. Papermaking abstracts. N. Y., The association, 1941—42. 2 pts.

Walker, O. J. Absorption spectrophotometry and its applications; bibliography and abstracts, 1932—38. London, Adam Hilger, 1939. ("A record of all published works on the application of absorption spectrophotometry to all industries, and it is indeed a formidable list . . .

Pt. I deals with applications of spectrophotometry to analytical and industrial problems and Pt. II to applications to biochemistry and physiology.")

References:

Cobb, Ruth. Periodical bibliographies and abstracts for the scientific and technological journals of the world. Washington, D. C., National research council, 1920. (Vol. 1, pt. 3, no. 3)

London, Science museum. Science library. Bibliography of current periodical abstracts and indexes. London, The museum, 1934.

III. LOCATION AND IDENTIFICATION OF PERIODICALS

In searching for an article it may be necessary to find the official title of the journal in which it appears before using the card catalogue. This is best accomplished by consulting the various published lists of periodicals, the best known of which is the Union List of Serials. However, in many cases the desired publication may not be cited and it is often necessary to consult other published lists.

In many cases such compilations will indicate the holdings of various libraries and if the library whose facilities are customarily used does not possess the desired publication, it is often possible to borrow it from another library either directly, if the library is in the same locality, or by interlibrary loan arranged through the local library.

Although Webster defines a serial as a publication appearing in a series or succession of parts, and a periodical as a magazine or other publication which appears at stated or regular intervals of more than one day, it has become more and more common for libraries to use the term "serial" in the generic sense to include periodicals as well as serials, and to use the term "periodicals" as applying to magazines. Thus, some titles of the compilations listed below use "serials" when the information given includes both serials and periodicals in the Websterian sense of the term.

For purposes of convenience such lists of periodicals and serials are grouped below in sections: 1. By local availability; 2. For subscription prices, publisher, etc. for U. S., Canada, and Great Britain; 3. Foreign lists; 4. Lists of periodicals in special fields; 5. Lists for historical research.

1. LOCAL AVAILABILITY OF SERIALS LISTED

Union list of serials in libraries of the U. S. and Canada . . . Winifred Gregory, ed. 2d ed. N. Y., Wilson, 1943. (Lists holdings of 600 libraries)

———Supplement. 1941-43. N. Y., Wilson, 1945.

California library association, Southern district. Union list of serials in libraries of southern California. Los Angeles, Public Library, 1939. (Lists holdings of 75 libraries)

Cobb, Ruth. Periodical bibliographies and abstracts from the scientific and technical journals of the world. Washington, National research council, Bulletin, no. 1, p. 131-154, 1920. (Locations in 9 government libraries)

Drury, Francis K. W., ed. Technical and scientific serials in the libraries of Providence. Providence, R. I., Wilson, 1921. (Lists holdings of 10 libraries)

Indiana library association. Indiana union list committee. Union list of serials in Indiana libraries. Lafayette, The association, 1940. (Lists holdings in 46 libraries)

Lynch, Mary M. and Kornhauser, Henrietta. Union list of periodicals in some of the special libraries of Pittsburgh. Pittsburgh, Special libraries association, 1926. (Lists holdings of 17 libraries)

1. Local availability of serials listed (cont.)

Special libraries association. Cincinnati chapter. Union list of periodicals currently received by libraries in Cincinnati. Cincinnati, Special libraries association, 1934. (Lists holdings of 45 libraries)

Special libraries association. Michigan chapter. Union list of serials in the libraries of metropolitan Detroit. Detroit, Wayne university press, 1946. (Lists holdings of 39 libraries)

Special libraries association. New York chapter. Union list of periodicals in special libraries of the New York metropolitan district. N. Y., Wilson, 1931. (Lists holdings of 75 libraries)

Special libraries association. San Francisco bay region chapter. Union list of serials of the San Francisco bay region. Stanford university, Calif., Stanford university press, 1939. (Lists holdings of 40 libraries)

———Supplement, 1941.

Special libraries association. Southern California chapter. Union list of periodicals in libraries of southern California. 3d ed. Los Angeles, Special libraries association, 1941. (Lists holdings of 61 libraries)

Union list of serials for the Atlanta district. Atlanta, Ga., Emory university, 1938. (Lists holdings of 21 libraries)

2. FOR SUBSCRIPTION PRICES, PUBLISHER, ETC.,
U. S., CANADA, AND GREAT BRITAIN

(For identification of a title in addition to entries
in sections 1, 3, 4, and 5)

Ayer, firm, newspaper advertising agents. N. W. Ayer and son's directory of newspapers and periodicals. Philadelphia, Ayer, 1880+ (Gives location, price, publisher, frequency; includes Canada, Bermuda, Cuba, West Indies, and U. S. possessions)

McKim's directory of Canadian publications. Montreal, McKim, 1906+

Severance, Henry O. A guide to the current periodicals and serials of the United States and Canada. 5th ed. Ann Arbor, Mich., Wahr, 1931.

Willing's press guide. London, Willing, 1874+ (Also lists publications in the English language issued abroad and foreign publications)

IDENTIFICATION OF A TITLE

Postage and The mailbag, inc. Directory of house magazines. Brooklyn, The company, 1931.

Printer's ink publishing co., inc., New York. The Printer's ink directory of house organs. N. Y. The company. 1944.

Ulrich's Periodicals directory (inter-American ed.) Carolyn F. Ulrich, ed. N. Y., Bowker, 1943.

———5th ed. (Postwar) N. Y., Bowker, 1947.

World list of scientific periodicals published in the years 1900-1933. 2d ed. London, Oxford university press. 1934.

3. FOREIGN LISTS.

Académie des sciences, Paris. Inventaire des périodiques scientifiques des bibliothèques de Paris. Paris, Masson, 1924-29. (Lists holdings of 118 libraries.)

3. Foreign Lists (cont.)

- Accademia scientifica veneto-trentino-istriana, Padua. Catalogo dei periodici scientifici posseduti dalle biblioteche ed istituti di Padova. Padua, L. Penada, 1931. (39 collections listed)
- Annuaire de la presse française et étrangère et du monde politique. Paris, Flammarion, 1880+
- Annuaire des journaux, revues, et publications périodiques publiés à Paris, 1880-1913, 1921-29. Paris, Le Soudier, 1881-1915, 1922-30.
- Annuario della stampa italiana ed Europea. Bologna, Zanichelli, 1916+
- Archey, Gilbert. Reference list of the scientific periodicals in the libraries of New Zealand. [Auckland] 1927. (Lists holdings of 31 libraries.)
- Australia. Council for scientific and industrial research. Catalogue of the scientific and technical periodicals in the libraries of Australia, ed. by Ernest R. Pitt. Melbourne, The council, 1930. (Lists holdings of 132 libraries)
- Supplement, 1928-33, by C. A. McCallum and D. W. I. Cannan. Melbourne, Prior and co. pty. ltd., 1934. (Lists holdings of 138 libraries)
- Brussels. Bibliothèques scientifiques de Belgique. Brussels, Ministère des sciences et des arts, 1930+? (Quarterly classified union list of 13 libraries)
- Catalogo delle pubblicazioni periodiche scientifico-tecniche, esistenti nelle biblioteche di Milano e della R. Università di Pavia. 2d ed. Milano, Industrie riunite arti grafiche. 1927.
- Deutscher journal-katalog für 1865-1922. Leipzig, Schulze, 1865-1922. (A trade bibliography listing only periodicals and transactions handled by German dealers)
- Dublin. National library of Ireland. List of scientific and technical periodicals in Dublin libraries. Dublin, The library, 1929.
- Kemp, Stanley. Catalogue of the scientific publications in the principal libraries of Calcutta. Calcutta, Asiatic society of Bengal, 1918. (Lists holdings of 22 libraries)
- List of the serial publications of foreign governments, 1815-1931, ed. by Winifred Gregory. N. Y., Wilson, 1932. (Holdings of approximately 30,000 titles in 75 libraries)
- Hall, Thomas Sergeant. Catalogue of the scientific and technical periodical literature in the libraries in Melbourne. Melbourne, Govt. printer, 1899. 2d ed. Melbourne, Govt. printer, 1911. (Lists holdings of 44 libraries)
- Italy. Ministero dell' educazione nazionale. Consiglio nazionale delle ricerche. Periodici Italiani scientifici-tecnici e di cultura generale. 4 ed. Rome, Tipografia delle Terme, 1934.
- Kurztitelverzeichnis technisch-wissenschaftlicher zeitschriften. Nach dem stande Januar, 1937. Berlin, Verein deutscher ingenieure verlag, 1937.
- Lloyd, A. C. G. A list of the serial publications available for consultation in the libraries and scientific institutions of the Union of South Africa. New and rev. ed. Capetown, Standard press, 1927. (Lists holdings of 44 libraries)
- Lomer, Gerhard R. and Mackay, Margaret S. A catalogue of scientific periodicals in Canadian libraries. Montreal, McGill university, 1924. (Lists holdings of 61 libraries)

3. Foreign Lists (cont.)

- London. Science museum. Science library. Hand-list of short titles of current periodicals in the Science library. Pt. I. Alphabetical. 5th ed. London. H. M. Stationery office. 1938.
- National research council, Japan. Dept. of education. Catalogue of foreign scientific serial publications in the various institutions in Japan. 3d ed. Tokyo, The society, 1938.
- Nederlandsch instituut voor documentatie en registratuur, Hague. Inventaris van natuurwetenschappelijke medische en technische periodieken in nederlandse bibliotheken. 's-Gravenhage, Uitgegeven onder auspiciën van de Commissie voor de inventarisatie van natuurwetenschappelijke, medische en technische tijdschriften en periodieken, aanwezig in nederlandse bibliotheken, 1941.
- Ottawa. Carnegie library. A union list of magazines, chiefly of a scientific and technical character, in the libraries of certain government offices in Ottawa. [Ottawa]. 1921-22. (In two parts. Pt. 1 : Holdings of 18 offices. Pt. 2 : Holdings of 19 offices)
- Répertoire des périodiques scientifiques existant dans les bibliothèques belges. Gand, Hoste, 1927.
- Revue de l'ingénieur. Brussels, Association de la presse technique, 1903-26
- Sheffield public libraries. Interchange of technical publications. Union list of scientific, technical and commercial periodicals in the libraries of members of the group interchange system. Sheffield, England, The author, 1934. (Lists holdings of 18 libraries)
- Sperlings zeitschriften-adressbuch. Leipzig, Verlag des Börsenverein der deutschen buchhandler, 1858+ (Classified list by large subjects)
- Union catalogue of the periodical publications in the university libraries of the British Isles with their respective holdings, excluding titles in the World list of scientific periodicals. London, National central library, 1937. (Lists holdings of 113 libraries)
- Woelfffing, Ernst. Verzeichnis der zeitschriften für die gebiete der mathematik, der physik, der technik und der verwandten wissenschaften welche auf württembergischen bibliotheken vorhanden sind. Stuttgart, 1899. (Lists holdings of 71 libraries)

4. LISTS OF PERIODICALS IN SPECIAL FIELDS

- American chemical society. List of periodicals abstracted by Chemical abstracts, with a key to library files and other information. Columbia, Ohio, The Ohio state university, 1936. (Later ed. in preparation)
- Beilstein, Friedrich K. Beilstein's handbuch der organischen chemie. 4te aufl. Berlin, Deutschen chemischen gesellschaft. v. 1, 1918+ (32 periodicals listed to 1909. Consult later issues as well)
- Chemistry bibliography; a check-list of periodical holdings and standard chemical reference tools to be found in the libraries of the chemical plants and in the public libraries of Buffalo and the Niagra frontier. Buffalo, Grosvenor library, 1936.
- Engineering societies' library. Catalogue of technical periodicals, libraries in the city of New York and vicinity. N. Y., Library board of the United engineering society, 1915. (Lists holdings of 7 libraries)
- Fleming, Russell C. Source book; a directory of public agencies in the United States engaged in the publication of literature on mining and geology. N. Y., American institute of mining and metallurgical engineers. 1933.

4. Lists of Periodicals in Special Fields (cont.)

Garston, England. Building research station. Building science abstracts. 1928+ (Every five years a list of the periodicals examined at the Building research station is given with a key to library holdings)

Gates, Elizabeth. Union list of chemical periodicals in the Cincinnati libraries. Cincinnati, Univ. of Cincinnati, 1925. (List holdings of 7 libraries)

Krupp (Fried.) aktiengesellschaft, Essen. Verzeichnis der von der werksbücherei gehaltenen zeitschriften. Essen, The association, 1936.

Liste des publications se rapportant à la chimie et aux sciences annexes. Société de chimie industrielle. Bulletin, Oct./Dec. 1929, p. 20-46.

London. Science museum. Science library. Bibliographical series. no. 288. Select list of foreign aeronautical journals. London, The museum, 1937.

National carbon company. Technical record; complete record of technical periodicals in the Cleveland libraries. Cleveland, The company, 1916.

Ontario. Dept. of mines. List of publications, including reports. v. 1-40, 1891-1931. Rev. to May 1932. 3d ed. Ontario, The dept., 1932.

Pellett, Mirl E. Water transportation, a bibliography, guide and union catalogue. v. 1, Harbors, ports and terminals. N. Y., Wilson, 1931. (Lists holdings of 33 libraries)

Pflücke, Maxim. Periodica chimica. Berlin, Verlag chemie, 1940. (Lists periodicals abstracted in Chemisches zentralblatt)

Remick, A. E. A survey of Detroit's chemical library facilities. Detroit, The Detroit chemist, v. 7, 1935, p. 114-118. (Lists holdings for 8 libraries)

———Revision. The Detroit chemist, v. 8, 1936, p. 250-252, 254-256, 258. (Lists holdings of 10 libraries)

Serial publications in the library of the American institute of electrical engineers—AIEE. American society of mechanical engineers—ASME. American institute of mining engineers—AIME. To December 31, 1907. N. Y., American institute of mining engineers, 1908.

Special libraries association. Chemistry section. Union list of scientific periodicals in the chemical libraries. 2d ed. New York, The association, 1939. (Lists holdings in 68 libraries in U. S. and Canada)

Subject list of the periodical publications in the Patent office library. Rev. ed. London, H. M. Stationery office, 1924.

Union list of technical periodicals in two hundred libraries of the science-technology group of special libraries association. Ed. Elizabeth G. Bowerman. 3d ed. N. Y., Special libraries association, 1947.

U. S. Library of congress. Division of aeronautics. Aeronautical periodicals and serials in the Library of Congress. Washington, The Library, 1937+

West, Clarence J. and Hull, Callie. Checklist of chemical periodicals in the libraries of the south. Journal of chemical education, v. 7, 1930, p. 2449-2498. (Lists holdings of 59 libraries)

Yale university library. List of engineering periodicals in the Yale university library, departmental libraries and the New Haven Free public library. New Haven, Yale co-operative corporation, 1910. (Lists holdings in 8 collections)

4. Lists of Periodicals in Special Fields (cont.)

———Finding list of engineering periodicals in the Yale university library, departmental libraries and the New Haven Free public library. 2d ed. New Haven, Yale co-operative corporation, 1914. (Lists holdings in 5 libraries)

———Finding list of engineering serials in the libraries of New Haven. 3d ed. New Haven, Engineers' club of the Sheffield scientific school, 1922. (Lists holdings in 6 libraries)

5. LISTS OF PERIODICALS FOR HISTORICAL RESEARCH

Bolton, Henry Carrington. Catalogue of scientific and technical periodicals, 1665-1895. 2d ed. 1897. Smithsonian institution. Miscellaneous collections, #40. (8,603 titles)

British museum. Catalogue of printed books. Periodical publications. London, The museum, 1899-1900. 6 pts.

International catalogue of scientific literature. List of journals. London, The Royal society, 1903.

———Supplement. 1904.

———List of journals. France. 1901.

———List of journals. Germany. 1901.

Mott, Frank Luther. History of American magazines. 1741-1850. N. Y., Appleton, 1930. (Chronological list of magazines, p. 785-809)

Richardson, Lyon Norman. History of early American magazines, 1741-1789. N. Y., Nelson, 1931. (Bibliography of American magazines, 1741-1789, p. 362-75)

Rowell, George Presbury. American newspaper directory, 1869-1908. N. Y., Rowell, 1869-1908. (U. S. and possessions, Canada and Newfoundland)

Royal Society of London. Library. Catalogue of the periodical publications in the library. London, Oxford university press, 1912. (1811 periodicals listed with a society index)

Scudder, Samuel Hubbard. Catalogue of the scientific serials of all countries, including the transactions of learned societies in the natural, physical and mathematical sciences, 1633-1876. Harvard university library special publication no. 1. Cambridge, Mass., Harvard university, 1879.

IV. BIBLIOGRAPHY

"Bibliography" is defined by Webster as a list of writing relating to a given subject or author. For purposes of clarity and convenience indexes and abstracts of periodical literature, which are technically bibliographies, have been listed previously, the publications in this section being primarily concerned with monographs, although compilations with citations to both monographs and serial publications are included.

General national trade bibliographies, except American indexes have not been listed, only those compilations pertaining to science and technology are included. A guide to national trade bibliographies which may also be used in obtaining prices and identifying publications will be found in:

Heyl, Lawrence. Current national bibliographies; a list of sources concerning books of all countries. Rev. ed. Chicago, The American library association, 1942.

In this section some useful bibliographies, book review serials and guides to book selection are cited. Steps to be taken to find a bibliography on a specific subject, procedure to adopt in compiling a comprehensive bibliography, and examples of correct bibliographic usage are given:

USEFUL BIBLIOGRAPHIES

General:

Association of special libraries and information bureaux. Select list of standard British scientific and technical books. 3d ed. London, The association, 1946. (Publishes quarterly book list)

Bibliografia italiana (Consiglio nazionale delle ricerche) Bologna. 1928+ (Formerly Bibliografia scientifico-tecnica italiana)

Bibliographia technica (Verein deutscher ingenieure) Berlin; Leipzig. 1-2, 1924-25||

Bibliographie des sciences et de l'industrie. Paris. 1, 1898+

British science guild. Catalogue of British scientific and technical books. London, The guild [sold by A. and F. Denny, Ltd.] 1921.

———ed. 2. 1925 and supp.

———ed. 3. 1930.

Current titles: Engineering-technology-geology-physics-chemistry. N. Y. v. 1-2 no. 8, 1937-38||

Engineers' council for professional development. Selected bibliography of engineering subjects. N. Y., The society, 1938.

Giornale di bibliografia tecnica internazionale. Bologna. 1, 1925+

Internationaler jahresbericht der bibliographie. Leipzig, Harrassowitz, 1930+? (Contains lists of articles on specific subjects as well as lists of books)

Lewis' medical, scientific and technical lending library catalogue. New, rev. ed., issue of 1937. London, H. K. Lewis and co., ltd., 1938. (Supplements were issued to the 1928 ed. covering 1928-30, 1931-33)

London, Science museum. Science library. Bibliographical series. 1, 1930+

———Science library. Weekly list of accessions. 1, 1931+

General (cont.)

National research council. Committee on American scientific and technical bibliography. Scientific, medical and technical books published in the United States of America, 1930-1944. Washington, The council, 1946. (A selective list of books in print)

Neue technische bücher, monatsbericht über die technischen literaturgebiete. Hamburg. 1, 1924+

Neuerwerbungen der bibliothek der technischen hochschule, hrsg von E. Koch Dresden, Akad. buchh. Focken und Oltmanns, 1937.

Les nouveaux livres scientifiques et industriels. Paris, Dunod, 1902+

Poggendorff, Johann C. Biographisch-literarisches handwörterbuch. Leipzig, Barth, 1863-1904; Verlag chemie, 1925-26, v. 1-5; Bd. 6, 1923-31, Verlag chemie, 1936-37. (Contains references to about 8000 scientists. Under the name of the person mentioned will be found practically a complete bibliography of the subject's writings)

Polytechnische bibliothek. Leipzig. 1, 1866+

Repertorium technicum: international bibliography of books and periodicals on technical subjects. The Hague. 1, 1931+

Seydels führer durch die neuere deutsche technische literatur. Berlin. no. 1-14, 1898-1900||

Sotheran, firm, booksellers, London. Bibliotheca chemico-mathematica. London, Henry Sotheran, ltd., 1937. 2 v. (Forms nucleus of a complete bibliography of the exact sciences)

Technische zeitschriftenschau. (Verein deutscher ingenieure) Berlin; Leipzig. 1, 1916+

U. S. Office of technical services. Bibliography of scientific and industrial reports. Washington, D. C. v. 1, 1946+ (An index of war research work)

U. S. Superintendent of documents. Checklist of the U. S. public documents, 1789-1909. 3d ed. rev. and enl. Washington, D. C., Govt. print. off., 1911.

U. S. Superintendent of documents. Catalogue of the public documents of Congress and of all departments of the U. S., 1893+

U. S. Superintendent of documents. Monthly catalogue of U. S. public documents, 1895+

Acoustics:

Watson, R. Bibliography of acoustics of buildings. Washington, D. C. National research council. Reprint and circular series, no. 99, 1931.

Adsorption:

Deitz, Victor R. Bibliography of solid adsorbents. Washington, Bureau of standards, 1944. (Covers 6000 contributions to the scientific literature. Complete author index and large, useful subject index)

Aeronautics:

Aeronautical chamber of commerce of America. Library bulletin. N. Y. no. 1-215, 1922-35||

Aeronautical reader's guide; recent aeronautical books, government publications, library accessions in the Paul Kollsman library. N. Y. v. 1, no. 1-4, 1940-41|| (Continued in Aeronautical engineering review)

Aeronautics. (cont.)

- L'Association technique maritime et aéronautique, Paris. Bulletin no. 40, 1931. (Classified list of papers presented to the association since its foundation)
- Brockett, Paul. Bibliography of aeronautics. Washington, Smithsonian institution, 1910. (Smithsonian misc. pub. no. 55)
- Hoff, Ebbe C. and Fulton, John F. A bibliography of aviation medicine. Springfield, Ill., C. C. Thomas, 1942. (Includes citations from ten or twelve languages. Covers entire field of medicine and physiology in relation to aeronautics)
- Gt. Brit. Stationery office. List of non-parliamentary publications on aeronautics. London, H. M. Stationery office, 1936.
- U. S. National advisory committee for aeronautics. Bibliography of aeronautics. Washington, D. C. The committee, 1909-36||
- U. S. Work projects administration. Bibliography of aeronautics. Washington, D. C. Govt. print. off., 1936-40. 50 pts. (Each part devoted to a special subject. Covers articles, books and pamphlets)

Airports

- U. S. Civil aeronautics administration. Airport literature—a selected bibliography [1920-47] Washington, D. C. The administration, 1947.

Automobiles:

- Autobücherschau. Berlin; Charlottenburg, Reichsverband der automobil-industrie, 1936+ (Lists all books in the automobile movement in Germany)

Chemistry (including Chemical engineering):

- American institute of chemical engineers. Committee on chemical engineering education. Minimum list of recommended books for a chemical engineering library. N. Y., The institute, 1939.
- Baker and co., Newark, N. J. Bibliography of patents on palladium as a catalyst. Newark, N. J., The company, 1939. (Gives reactions catalyzed by palladium, describes catalytic equipment, gives patents covering palladium compounds)
- Furnas, Clifford C. and others. A bibliography of unit operations of chemical engineering. Louisville, Ky., Univ. of Louisville, 1939. (Covers the 10 years previous. Includes references to periodicals of practically every country in Europe, many in Asia and the U. S. Subjects include crystallization, diffusion, distillation, drying, evaporation, extraction, filtration, fluid flow, gas absorption, heat transfer, materials handling, mixing, size reduction, and size separation)
- Greene, Luther W. Where to find information on the German chemical industry; a bibliography. Baltimore, The author, 1946.
- Meggers, William F. and Scribner, Bourdon F. Index to the literature on spectro-chemical analysis, 1920-39. 2d ed. enl. Philadelphia, American society for testing materials, 1941.
- Smith, Donald M. Bibliography of spectrochemical analysis. 2d ed. London, British non-ferrous metals research society, 1941.
- West, Clarence J. and Berolzheimer, Daniel D. Bibliography of bibliographies on chemistry and chemical technology, 1900-24. Washington, National research council, Bulletin no. 50, 1925.

Civil engineering:

Massachusetts institute of technology. Library. Subject list of theses in civil and sanitary engineering in the library. Cambridge, Mass., R. R. McNay co., 1939.

Corrosion and anti-corrosives:

National lead company. Research laboratories. Corrosion and preservation of iron and steel; a bibliography, 1936-1945. Brooklyn, N. Y., The company [1946] Laboratory publication no. 126-46.

National lead company. Research laboratories. Structural metal painting; literature review. Brooklyn, N. Y., The company, 1946. Laboratory publication 134-46.

Dams

U. S. Engineer school. Library. Dams—a bibliography of books, periodicals and society publications. Fort Belvoir, Va., The library, 1936.

Dust:

Research corporation. Bibliography of published articles on electrical precipitation. N. Y., The corporation [1946?]

Electric heat-High Frequency.

Northwestern university, Evanston, Ill. Technological institute. Library. Bibliography on high frequency and dielectric induction heating. Evanston, Ill., The university, 1946.

Rasca, Ralph G. Bibliography on high-frequency dielectric heating. N. Y., American institute of electrical engineers, 1947.

Electrical engineering:

American institute of electrical engineers. Bibliography on automatic stations. N. Y., The institute.

American institute of electrical engineers. Committee on protective devices. Bibliography of relay literature, 1927-39. N. Y., The institute, 1941.

American institute of electrical engineers. Committee on safety. Bibliography on electrical safety, 1930-41. N. Y., The institute, 1942. (Includes lists of American and Canadian safety codes)

American society for testing materials. Bibliography and abstracts on electrical contacts. Philadelphia, The society, 1944.

———Supplement. 1945.

British electrical and allied industries research association. Annotated list of published reports. London, The association, 1938.

———Supplement. 1942.

Ontario. Hydro-electric power commission. Bibliography. vibration in electrical conductors. Toronto, The commission, 1946.

———Supplement. April 1947.

Enameling:

McClelland, Ellwood H. Enamel bibliography and abstracts. Columbia, O., American ceramic society, 1944.

Flow of fluids:

Michel, L. R., comp. Bibliography on flow of compressible fluids. 2d ed. Los Angeles, The author, 1946.

Fuel:

U. S. Bureau of ships. Bibliography of synthetic liquid fuels. Washington, D. C., Technical literature research of the Research and standards branch, Bureau of ships, 1945.

Gas turbines:

U. S. Bureau of ships. The British patents on gas turbine plants (1925-date) Washington, D. C., Research group, Bureau of ships, 1943.

———The German patents on gas turbine plants. 1925-42. Washington, D. C., Technical literature research of the Research and standards section, Bureau of ships, 1943.

———The German patents on gas turbine plants. Washington, D. C., Technical literature research of the Research and standards section, Bureau of ships, 1944.

———The Swiss patents on gas turbine plants. 1925-42. Washington, D. C., Technical literature research of the Research and standards section, Bureau of ships, 1944.

———The technical literature of gas turbine plants, 1930 to date. Washington, D. C., Technical literature research of the Research section, Bureau of ships, 1942.

———The United States patent of gas turbine plants. 1925-42. Washington, D. C., Technical literature research of the Research section, Bureau of ships, 1943.

Gaskets:

Houghten, Mattie L. Bibliography, sealing tests for gaskets. Washington, D. C., Research branch, Bureau of ships, 1944.

Geophysics:

London. Science museum. Current bibliographical series. Quarterly bibliography of applied geophysics. 1933+

Germany—Industry:

Gt. Brit. British intelligence objectives sub-committee. Technical index of reports on German industry published up to and including 27th July, 1946. London, H. M. Stationery office, 1946.

Heat transmissions:

Virginia. Polytechnic institute. Heat transfer bibliography. (Engineering experiment station series, no. 53, 1943)

Heating and ventilating:

National research council. Canada. Air conditioning: a list of recent books with contents, publishers and prices. Ed. by C. A. MacConkey. Ottawa, The council, 1938.

Highways:

National highway users conference, Washington, D. C. Highways and motor transportation; a bibliography. Washington, D. C., The conference, 1937.

Hydrocarbons:

Katz, Donald L. and Rzasa, Michael J. Bibliography of physical behavior of hydrocarbons under pressure and related phenomena. Ann Arbor, Mich., Edwards bros., 1946.

Hydromechanics:

California. University. College of engineering. Division of mechanical engineering. Theses and reports on fluid mechanics and related fields (1900-45) and Publications of Fluid mechanics laboratory (1926-45) Berkeley, California, The university, 1945.

Illumination.

U. S. Dept. of agriculture. Bibliography on highway lighting, compiled by Mildred A. Wilson. Miscellaneous publication no. 279. Washington, D. C., U. S. Dept. of agriculture, 1937. (Covers period 1913-1936)

Instruments:

American society of mechanical engineers. Industrial instruments and regulators division. Bibliography committee. Sources of information on instruments. N. Y., The society, 1945.

Insulation:

U. S. Bureau of ships. Bibliography—Thermal characteristics of electrical insulation as applied to magnet coils and formed coils. Washington, D. C., Research and standards branch, Bureau of ships, 1946.

Iron and steel:

Elsdon, R. Bibliography on the burning and overheating of steel. London, Iron and steel institute, 1944.

Phelps, R. H. Iron and steel wire; a bibliography. Pittsburgh, Carnegie library, 1936.

Lubrication:

London. Science museum. Science library. Current bibliographical series. Quarterly bibliography on lubrication. 1933+

Marine engineering:

North-east coast institution of engineers and shipbuilders, Newcastle-upon-Tyne. Recent engineering articles of interest and books added to the library. 1, 1926+

Mathematics:

Karpinski, Louis Charles. Bibliography of mathematical works printed in America through 1850. Ann Arbor, Mich., University of Michigan press, 1940.

National research council. Committee on a bibliography on orthogonal polynomials. A bibliography on orthogonal polynomials. (Bulletin no. 103) Washington, D. C., The council, 1940.

Metals:

Boston, Orlan W. A bibliography on cutting of metals, 1864-1943. N. Y., American society of mechanical engineers, 1945.

Haughton, John L. Bibliography of the literature relating to the constitutional diagrams of alloys. London, Institute of metals, 1942.

Metals: (cont.)

Howe, James L. and others, Bibliography of the platinum metals, 1918-1930. Newark, N. J., Baker and Co., inc., 1947.

Mining:

Crane, Walter R. Index of mining engineering literature. 1909-12. N. Y., Wiley, 1909-12 (1912-16 is covered by ten semiannual volumes of the Mining world index of current literature)

Model basins:

London. Science museum. Science library. Current bibliographical series Quarterly bibliography of experiment tank work. 1935+

Motion pictures:

Weaver, Gilbert G. Bibliography of technical and industrial motion pictures. N. Y., Hamilton co., 1943.

Naval art and science:

Leidy, W. P. Shipbuilding and marine engines; a selected list of books and pamphlets. Chicago, American library association, 1941.

Petroleum:

American association of petroleum geologists. Comprehensive index of A.A.P.G. publications, 1917-1936. Tulsa, Okla., The association, 1937. (Index to all articles in bulletin or book form during the past 20 years)

DeGolyer, Everette and Vance, Harold. Bibliography on the petroleum industry. College Station, Texas, Texas Agricultural and mechanical college, Bulletin no. 83, 1944.

Hardwicke, Robert E. Petroleum and natural gas bibliography. Austin, Texas, University of Texas, 1937. (Lists primarily book literature)

U. S. Bureau of mines. Bibliography of petroleum and allied substances, 1915-1923. Washington, D. C., The bureau, 1918-1929

U. S. Bureau of mines. Recent articles on petroleum and allied substances. San Francisco, The bureau, 1919-23.

Photography:

Boni, Albert. A guide to the literature of photography and related subjects; quarterly supp. no. 18 for the Photo-Lab-index, by Henry M. Lester. N. Y., Morgan and Lester, 1944.

Physics:

Darrow, Karl K. Classified list of published bibliographies in physics. 1910-22. Washington, D. C., National research council, Bulletin no. 47, v. 8, pt. 5, 1924

Plastics:

U. S. Bureau of ships. A bibliography on thermosetting plastics. Washington, D. C., Research and standards branch, Bureau of ships, 1946.

Quality control:

Butterbaugh, Grant I. Bibliography of statistical quality control. Seattle, University of Washington, 1946.

Radiant heating

Jorgensen, Inge B. Radiant (panel) heating, 1940-45. Chicago, John Crerar library, 1945.

Radio:

Contribution à la bibliographie de la radioélectricité (1922-32) Paris, Etienne Chiron, 1937.

U. S. Bureau of foreign and domestic commerce. Current radio references, a bibliography Comp. L. D. Batson. Washington, D. C., Govt. print. off., 1938.

Railroads:

Thomson, Thomas R. Check list of publications on American railroads before 1841; a union list of printed books and pamphlets. N. Y., Public library, 1942.

Raw materials:

U. S. Tariff commission. Raw materials bibliography. Washington, D. C., The commission, 1939.

Rivets:

De Jonge, Albert E. R. Riveted joints. N. Y., American society of mechanical engineers, 1945.

Sanitary engineering:

U. S. Work projects administration, New York City. Annotated bibliography on incineration, carbonization and reduction of garbage, rubbish and sewage sludge. Research in selected problems in sewage treatment project, no. 465—97—3—35) N. Y., City of New York, Dept. of sanitation, 1939 (Largely on municipal disposal)

Television:

Radio corporation of America. RCA laboratories, Princeton, N. J. Television, a bibliography of technical papers by RCA authors, 1938-1946. Princeton, N. J., RCA review, 1946.

Water:

American geophysical union Section of hydrology. The bibliography of hydrology. Washington, The union, 1940.

U. S. Work projects administration. New York City. Bibliography and abstracts on the chloramine treatment of water. (Research in selected problems in sewage treatment. Project no. 365—97—3—35) N. Y., City of New York, Dept. of sanitation, 1937.

Welding:

Institute of welding, limited. Welding research council. Reference library. The reference library of the welding research council. London. The institute, 1941 (Contents' section 1. Classified library catalogue, June 1941)

U. S. Bureau of ships. Bibliography of electric arc welding. Washington, Technical literature research of Research and standards branch, Bureau of ships, 1945.

X-Ray:

Isenburger, Norbert R. Bibliography on industrial radiology. Long Island, N. Y., St. John X-ray service, inc., 1945.

Zinc:

Zinc development association. Corrosion of zinc and zinc alloys in sea water and saline solutions. Oxford, England, The association, 1942?

———Rolled zinc and zinc alloys, bibliography. Oxford, England, The association, 1942.

———Zinc alloy die casting, 1937-42. Oxford, England, The association, 1942.

———Zinc chromate. Oxford, England, The association, 1942?

BOOK REVIEW SERIALS

Engineering index. N. Y., v. 1, 1884+ (Many periodicals in special fields, e.g., Mechanical engineering, Civil engineering, Electrical engineering, etc., contain book reviews by specialists in that field. Most of these will be indexed in Engineering index)

Technical book review index. Pittsburgh, Carnegie library, 1917-28.

Technical book review index. N. Y., Special libraries association. v. 1, 1935+

GUIDES TO BOOK SELECTION

In addition to the review serials and periodicals in special fields, the following publications are invaluable for book selection for technical libraries:

Association of special libraries and information bureaux. ASLIB book list. London. v. 1, 1935+ (Books classified under subject and listed in the following categories: Books of general interest; Intermediate books; Advanced or specialized books; and, Dictionaries, yearbooks, etc. Includes American publications and gives price)

Carnegie library. Pittsburgh. Technology department. Science and technology. v. 1, 1946+ (Library accessions arranged under subjects. Brief descriptions)

Denver. Public library. Science and engineering department. New book list. 1943?+ (Listed under subject)

New York. Public library. New technical books. v. 1, 1915+ (Listed under subject. Annotations)

S. T. M. books news. Cincinnati. v. 1, 1946+? (Sections include: Books published during the past sixty days; Books to be published within the next four months; Books published during [the year]; and, Outstanding reference books)

Technical book world. Washington, D. C. v. 1, 1946+? (Longer annotations than the above. Has section on new technical books soon to be released. The publisher of this serial is also a book dealer and is apparently reproducing government research reports)

PROCEDURE IN FINDING A BIBLIOGRAPHY
ON A SPECIFIC SUBJECT

a. Consult card catalogue in the library under the subject followed by the division "Bibliography" for a possible bibliography already published and available in the library.

b. Consult Bibliographic index. N. Y., Wilson, 1938+ (Arranged by subject. A valuable feature of this compilation is its listing of bibliographies found in books on a given subject.

c. Consult abstracting and indexing journals under subject.

Finding a Bibliography on a Specific Subject (cont.)

d. Consult the U. S. Catalog and Cumulative book index for a possible published bibliography not listed in the card catalogue nor in the Bibliographic index and which might be borrowed on interlibrary loan from another library. For foreign publications, consult the trade catalogues listed in Heyl.

e. Mention should be made of Bestermann, Theodore. A world bibliography of bibliographies. London, Oxford university press, 1939. 2 v. Although this compilation is not up-to-date, a bibliography not found elsewhere might be found here.

PROCEDURE IN COMPILATION OF
A COMPREHENSIVE BIBLIOGRAPHY

Consult all sources listed above with the addition of abstracting and indexing journals, and:

a. National bibliographies not listed in Heyl which are no longer current, a listing of which may be found in Mudge, Isadore G. Guide to reference books. 6th ed. Chicago, American library association, 1936 and supplements, 1937+

b. U. S. Document catalog and Monthly catalog. For a subject bibliography unless the author is connected with the government.

EXAMPLES OF CORRECT BIBLIOGRAPHIC FORM

Books:

M'Lachlan, N. W. Bessel functions for engineers. London, Oxford university press, 1934. 192 p.

or,

M'Lachlan, N. W. Bessel functions for engineers. London, Oxford university press, 1934. 192 p.

Always give pagination, number of volumes, if more than one, and exact page reference if a section of the book is referred to.

Periodicals:

Boston, O. W. and others. Machinability ratings of metals and cutting fluid recommendations. Tool engr. v. 12:93-6, Ap 1943

or,

Boston, O. W. and others. Machinability ratings of metals and cutting fluid recommendations. Tool engr. v. 12:93-6, Ap 1943.

A third style is an abbreviated form which contains the minimum information acceptable: author, title, journal in which it appeared, pagination, date, including month:

Boston, O. W. and others. Machinability ratings of metals and cutting fluid recommendations. Tool engr. 12, 93 (Ap 1943)

Entries from other sources—as a chapter from a book:

Roeser, W. F. and Wensel, H. T. Methods of testing thermo-couples and thermocouple materials. In Am. Inst. of Physics. Temperature, its measurement and control in industry. N. Y., Reinhold pub. co. p. 284-314. 1941.

Footnotes:

¹Franklin, Philip. Differential equations for electrical engineers. N. Y., Wiley, 1933. p. 156-160.

Some Examples of Correct Bibliographic Usage (cont.)

For fuller information on bibliographic usage see Hurt, Peyton, Bibliography and footnotes. Berkeley, Calif., University of California syllabus series no. 258. 1936. (New and enlarged edition in press)

For standard abbreviations of journal titles consult one of the standard abstract or index serials (e.g., Chemical abstracts, Engineering index). A list of these abbreviations will usually be found preceding the text.

V. REFERENCE BOOKS

GENERAL

Abbreviations:

- American standards association. Sectional committee on letter symbols and abbreviations for science and engineering terms. N. Y., American society of mechanical engineers, 1941.
- British standards institution. British standard chemical symbols and abbreviations. London, The institution, 1938. (This list of chemical symbols for thermodynamics and physico-chemical quantities issued by a joint committee of the Chemical society, the Faraday society, and the Physical society. It contains additional material, especially tables of abbreviations of a general character)
- Matthews, Cecily C., comp. A dictionary of abbreviations. London, Routledge, 1947.
- Shankle, George E. Current abbreviations. N. Y., H. W. Wilson, 1945. (Contains very full list of general terms and the more generally used scientific and technical terms)
- Stephenson, Herbert J. Abbreviations. N. Y., Macmillan, 1943. (General terms)

Aeronautics:

- Air annual of the British empire. London, Gale and Polden, ltd. 1929+ (Detailed descriptions of British military, commercial, and civil types of aircraft; aircraft equipment; materials, including alloys, finishes, etc; airways and airports, etc.)
- American aviation directory, aviation officials and companies. Washington, American aviation associates, inc., 1940+ (For U. S., Canada, Latin America, Africa, Europe and Australasia)
- American road builders' association. Directory of state aviation officials, and officials of Civil aeronautics administration concerned with airport development. Washington, D. C., The association, 1946 (Its Bulletin no. 112, 1946)
- Interavia . . . international correspondence on aviation. Société anonyme d'éditions aeronautiques internationales. Geneva, Switzerland, Interavia, A.B.C., v. 1, 1936+ (List of addresses of aeronautical firms, societies, organizations, etc. in every country in the world; including information on airports. Text in English, French, German, Italian, and Spanish)

Airplanes:

- Aerosphere. N. Y., Aircraft publications, 1940+ (Alphabetical descriptions of aircraft engines of all time; construction, performance, etc. of current types of aircraft, statistics, firms and organizations)
- Air annual of the British empire. London, Gale and Polden, ltd., 1929+ (For annotation see entry under Aeronautics)
- The air craft calendar. N. Y., Appleton-Century, 1939. (List of airplanes manufactured in every country in the world)
- Flugzeug-typenbuch: Handbuch der deutschen luftfahrt-industrie. Leipzig, H. Beyer verlag, 1936+

Airplanes. (cont.)

Jane's All the world's aircraft. N. Y., Macmillan, 1909+ (A record of the progress of civil and military aviation throughout the world. The "Aeroplane section" explains the numbering and naming systems used by various countries for their airplanes. Contains many illustrations of both airplanes and their engines)

Wilkinson, Paul Howard Aircraft engines of the world. N. Y., The author, [1946]. (Exclusively on aircraft engine specifications; international in scope. Includes a section on jet propulsion engines. Fully indexed with many illustrations)

Airports:

Airports; established landing fields and seaplane bases in the United States. Hackensack, N. J., Airport directory co., 1940+ (Annual, with monthly correction service)

U. S. Civil aeronautics authority. Directory of airports and seaplane bases. Washington, D. C., Govt. print. off., 1939. (Bulletin no. 11)

Alloys:

Everhart, John L. and others. Mechanical properties of metals and alloys. Washington, D. C., Govt. print. off., 1943. ("This circular is a summary of the results of a comprehensive survey of the technical literature on the strength and related properties, thermal expansion, and thermal and electrical conductivities of ferrous and non-ferrous metals and alloys at normal, high, and low temperatures . . . Literature references to the sources of the data are included.")

Hoyt, Samuel L. Metals and alloys data book. N. Y., Reinhold, 1943. (A compilation of data on the important metals and alloys with emphasis on their engineering properties)

Metals and alloys. 4th ed. rev. London, L. Cassier, [1941]. (In table form gives the composition of more than 3,700 alloys containing less than 50% iron)

Woldman, Norman E. and Dornblatt, Albert J. Engineering alloys. Cleveland, American society for metals, 1942. (A compilation of available data and information on practically all proprietary commercial and technical alloys manufactured in the U. S. and of many alloys of foreign countries. Gives directory of manufacturers)

Area measurement:

Reasonover, J. Roy. Land measures; French, Spanish and English land measures of the United States and Canada with units, English equivalents, reduction and conversion factors. Houston, Texas, Privately printed, 1946.

Associations:

Judkins, C. J. Trade and professional associations of the United States. Washington, Bureau of foreign and domestic commerce, Govt. print. off., 1942. (Industrial series #3) (Associations' names and addresses only, but this compilation is useful for many which are difficult to find. Also contains list of who's who among association executives)

League of nations. Handbook of international organizations (associations, bureaux, committees, etc.) N. Y., Columbia univ. press, 1938. (Classed arrangement with subject, alphabetical and geographical index)

Automobiles:

Chex-chart corporation. Chexall accessory blue book. Chicago, The corporation, Chexall division, 1937. (Contains complete specifications of all accessories recommended by car manufacturers for use in each of their cars. Valuable suggestions for accessory display and merchandising. Contains anti-freeze proportion table)

Cement:

Directory of cement, gypsum, lime, sand, gravel and crushed stone plants. N. Y., National trade journals, inc. (Annual)

Portland cement plants of the United States. Rev. ed., N. Y., J. H. H. Muirhead, 1937. (Gives location of each cement manufacturing plant with the complete name of the operating company)

Ceramics:

National research council. Data on chemicals for ceramic use. Washington, D. C., The council, Bulletin no. 107, 1943 (Contains exhaustive data on formulas, molecular weights, colors, crystal forms, densities, decomposition temperatures, etc., on chemicals used in the ceramic industries, with a bibliography of 1,128 entries for periodical literature)

Chemicals:

Association of British chemical manufacturers. British chemicals and their manufacturers. London, The association. (Biennial) (Contains directory of members, classified list of British chemists, list of proprietary and trade names and their owners. Names of chemicals are given in six languages: English, French, German, Italian, Portuguese, and Spanish)

Gregory, Thomas C., ed. Uses and applications of chemicals and related materials. N. Y., Reinhold publishing co., 1939-1944. 2 v. (A compilation of the industrial uses of 7,809 chemicals and related materials, classified by industries. Includes an index of synonyms, of patents, and lists names and addresses of patent holders)

Houghton, J. J., ed. Chemical manufacturers' directory. 78th ed. London, Simplex Marshall, ltd., 1946.

Snell, Foster D. and Snell, Cornelia T. Chemicals of commerce. N. Y., Van Nostrand, 1939. (Materials classified by type of compound. Description of individual products in descending order of importance)

Chemistry:

Chemists' year book, ed. by E. Hope. Brooklyn, Chemical publishing co., 1940. (Contains numerical data, analytical data, and glossaries of trade names)

Clouds:

Gt. Brit. Meteorological office. Cloud forms according to the international classification. London, H. M. Stationery office, 1918. (Official publication no. 233 issued by the authority of the Meteorological committee, describing clouds according to the standards approved by the International meteorological committee in 1910. Contains an atlas of photographs selected from the collection of the observatory at Aberdeen)

International meteorological committee. Commission for the study of clouds. Atlas international des nuages et des états du ciel. Paris, Office météorologique, 1930.

Coal.

Coal mine directory, United States and Canada. N. Y., McGraw-Hill, 1930+

Coal trades diary for 1938. London, F. W. Bridges, ltd., 1937. (Lists of colliery owners and collieries, trade associations, and learned societies)

Colliery year book and coal trades annual. London, L. Cassier, 1935-37 3 v. (Gives details of societies, institutions, and government regulations. bibliographies of books and periodicals)

MacQuown, W. C. Directory and handbook of anthracite. Pittsburgh, Pa., National coal publications, 1937+

Diesel engines

Diesel engine catalog. N. Y., Diesel engines, inc., 1936+ (Contains engine descriptions, manufacturers and accessories)

Directories, Business:

U. S. Dept. of commerce. American business directories. 2d ed. Washington, D. C., Govt. print. off., 1947.

Electric heat - High frequency:

Westinghouse electric and manufacturing company. Industrial electronics division. Radio frequency heating. 2d ed. Baltimore, The corporation, 1945. (Contains radio frequency, induction and dielectric heating formulas, conversion tables; and lists physical constants of metals, properties of metals, and heating rate in pounds per minute and in cubic feet per minute. It includes a wave-length frequency conversion table)

Electric power distribution.

France. Ministère des travaux publics. Service de documentation. Carte de l'énergie en France. Paris, Edit. géographiques de France, 1936.

Garcke's manual of electrical undertakings and directory of officials. London, Electrical press, 1940-41.

Syndicat des entrepreneurs de réseaux et de centrales électriques. Répertoire alphabétique des 36,000 communes électrifiées de la France et de l'Afrique du Nord. 4te ed. Paris, The author, 1939.

U. S. Federal power commission. Directory of electric utilities in the United States. Washington, D. C., Govt. print. off., 1941 (Lists all electric utility generating plants in the United States having 1,000 kilowatts or more installed capacity. Type of plant listed under geographical divisions)

Explosives:

Bebie, Jules. Manual of explosives . . . N. Y., Macmillan, 1943. (Gives information on composition, properties and uses of explosives and war chemicals. Trade names are also given)

Flour mills:

Pillsbury flour mills co. Conversion factors and technical data of the industry. Minneapolis, Minn., The company, 1945. (Many useful engineering tables, standards of illumination, properties of refrigerants, characteristics of types of fans, flow of water through nozzles, etc.)

Framing

Kleinlogel, Adolph. Rahmenformeln: gebrauchsfertige formeln. 8 vollständig neubearb. Aufl. N. Y., Frederick Unger, 1943

———Translator's key to Kleinlogel's Rahmenformeln. N. Y., Frederick Unger, 1945. (Contains collection of formulas for design of 114 types of single span frames with ends fixed or hinged, constructed of reinforced concrete, steel or wood)

Gas

The "Gas journal" calendar and directory. London, W. King, Ltd., 1929+ (Detailed list of gas undertakings in Great Britain and Ireland. Alphabetical list of personnel of gas industry)

Gas Times pocket directory of gas undertakings. London?, Leighton: Hallows and Slaughter, 1945.

Gas turbines:

U. S. Bureau of ships. Gas turbine charts. Washington, D. C., Research and standards branch, Bureau of ships, 1945. (Presents charts to aid in making gas turbine plant performance calculations. Contains a section on nomenclature and symbols)

Glass:

Directory of glass factories in the United States and Canada. Pittsburgh, Budget publishing co., c1916+

Heat conduction:

Still, E. W. The calculation of convective heat flow. London, Emmott and son, Ltd., 1937. (Useful for designers of radiators, coolers, heaters, etc. with plain grilles and other surfaces)

Heating and ventilating

Heating and ventilating Degree-day hand book. 2d ed. N. Y., Industrial press, 1937. (Temperature reference data for air conditioning operation and design calculations. Lists normal yearly degree-day figures for 94 of the more important cities)

Industrial training institute. A directory of service organizations. Chicago, The institute, 1940. (Lists 2,000 independent service organizations in heating, refrigeration, and air conditioning)

Highway engineering

Roads and road construction yearbook and directory. London, Carriers publishing co., 1923+ (Lists organizations)

Spielmann, Percy E. and Elford, Ernest J. Roadmaking and administration. N. Y., Longmans, 1934. (Lists organizations)

Industry—Russia:

Union of Soviet Socialist Republics. Atlas of the industries of the U.S.S.R. Moscow, State publishing co. n.d. (Gives names and sites of more than 80,000 factories, mines, and mills. Power plants are included. Contains 64 maps)

Iron and steel:

American iron and steel institute, New York. Directory of the iron and steel works of the U. S. and Canada. N. Y., American iron and steel institute, 1912+

Iron and steel: (cont.)

Directory, giving list of companies and officials operating forge shops, heat treating plants, stamping plants and railroad shops in the U. S. and Canada. Pittsburgh, Steel publications, inc., 1931+?

Penton's foundry list. Cleveland, O., Penton publishing co., 1930+?
(Only complete list and directory of all the foundries in the United States and Canada)

Verein für die bergbaulichen interessen. Essen. Jahrbuch für der Ruhrkohlenbezirk. 34 ed. Essen, Glückauf, 1936. ("Comprehensive . . . survey of the heavy industries in the Ruhr, and [it] is an invaluable reference book for industrial and technical information relating to these industries." Contains a complete reference section to all the colliery companies and iron and steel concerns in Rhenish-Westphalia)

Library research:

Barwick, G. F. The ASLIB directory; a guide to sources of specialized information in Great Britain and Ireland. London, Oxford univ. press, 1938. (Subject order with location and name indexes)

Crane, Evan J. and Patterson, Austin M. A guide to the literature of chemistry. N. Y., Wiley, 1927.

Dhyse, Frederick G. The application of machine methods to scientific literary research problems. Alameda, Calif., 1944.

Eason, Alec B. Where to seek for scientific facts. London, S. Rentell and co., 1925.

Holmstrom, John E. Records and research in engineering and industrial science. 2d ed. London, Chapman and Hall, 1947.

Mason, Frederick A. An introduction to the literature of chemistry. Oxford, Clarendon press, 1925.

Mellon, Melvin G. Chemical publications; their nature and use. 2d ed. N. Y., McGraw-Hill, 1940. (An appendix deals briefly with agriculture, biochemistry, metallurgy, and physics. With Soule, Roberts, Crane and Patterson, and Holmstrom, no technical library should fail to have this book in its collection)

Parke, Nathan Grier. Guide to the literature of mathematics and physics including related works on engineering science. New York, McGraw-Hill, 1947. (Contains a bibliography of 94 pages arranged by subject with an explanation of each subject-heading used. Gives excellent definitions of handbooks, encyclopedias, and textbooks)

Reid, Ebenezer E. Introduction to organic research. N. Y., Van Nostrand, 1924.

Rimbach, Richard How to find metallurgical information. Pittsburgh, The author, 1936. (Gives information on available indexes, abstracting services, and general reference books. Includes list of metallurgical books in print)

Roberts, Arthur D. Guide to technical literature. London, Grafton and co., 1939. (Arrangement is based on Dewey decimal system and its modifications, the universal decimal classification. Although primarily a bibliography of technical books, it contains information on library research technique of importance to engineers and technical librarians)

Soule, Byron A. Library guide for the chemist. N. Y., McGraw-Hill, 1938. (Although primarily concerned with chemistry, this publication contains much information of value for the engineer and technical librarian. This compilation is a guide to all the keys and summaries in chemical library research)

Library research (cont.)

Sparks, Marion E. Chemical literature and its use. 2d ed. rev. and enl. Urbana, Ill. [The author] 1921.

Special libraries association. Special library resources. N. Y., The association, 1941-46. v. 1-4. (Includes reports on the resources and special holdings of 844 libraries in the United States alphabetically arranged. V. 4 is a cumulative index to all 3 volumes)

Special libraries association. Special libraries directory of greater New York. 4th ed. N. Y., The association, 1947. (Describes resources of 562 libraries)

Special libraries council of Philadelphia and vicinity. Directory of libraries and informational sources in Philadelphia and vicinity. 7th ed. Philadelphia, The council, 1946. (Includes libraries in metropolitan Philadelphia and Wilmington, Del., as well as selected libraries within a 200-mile radius of Philadelphia)

Spratt, H. B. Libraries for scientific research in Europe and America. London, Grafton and co., 1936.

Machine shop practice:

Penton's machine shop directory; a selected list of contract, manufacturing, maintenance and repair machine shops in the United States and Canada. Cleveland, O., Penton's publishing co., 1930+

Machinery.

Qui construit des machines? Répertoire des fournisseurs de machines, d'appareils et outils de machines. Leipzig, 192+

Quién construye máquinas? Catálogo de constructores especialistas de máquinas, aparatos y herramientas de máquinas. Leipzig, 192+

Maps:

New York (State) Dept. of commerce. A handbook of map symbols. Albany, N. Y., Dept. of commerce, 1944. (Contains approximately 400 symbols selected largely from standard map symbols in universal use. Symbols are reproduced in a size to insure legibility. Indexed)

Thiele, Walter. Official map publications. Chicago, American library association, 1938. (Guide to map publications made currently available by government mapping services to different nations)

Materials

Brady, George S. Materials handbook. 5th ed. N. Y., McGraw-Hill, 1944. (Gives general information on materials with description of patented and trade-name materials in encyclopedic arrangement)

Construction materials index. San Francisco, Construction materials research co., 1937. (Contains two extensive bibliographies; essential data on business and construction; architectural and practical building design)

Machine design. Directory of materials used in the design of machines. 4th ed. Cleveland, O., Penton publishing co., 1936. (Comprehensive directory groups iron, steel, and nonferrous alloys into a workable listing. Plastics and other nonmetallic materials have been included under their trade names. Numerals have been used to classify the properties of the alloys and specially processed irons and steels included in the alloys section)

Mechanisms:

Jones, Franklin D. Ingenious mechanisms for designers and inventors. N. Y., Industrial press, 1930-36. 2 v. (Contains illustrated descriptions of mechanisms classified by function)

Metallurgy:

Hanemann, Heinrich and Schrader, Angelica. Atlas metallographious. Berlin, Geb. Borntraeger, 1927. (Collection of photomicrographs with description. The collection used by the authors contains more than 7,500 specimens with magnifications of from 600 to 1,200 diameters)

Metals:

Everhart, John L. and others. Mechanical properties of metals and alloys. Washington, D. C., Govt. print. off., 1943. (For annotation see entry under Alloys)

Hoyt, Samuel L. Metals and alloys data book. N. Y., Reinhold, 1943. (For annotation see entry under Alloys)

International nickel co., inc. Nickel and nickel alloys. N. Y., The company, 1946+ (Loose leaf) (For annotation see entry under Alloys)

Judge, Arthur W. Engineering materials. 2d ed. London, Pitman, 1943. 2 v. (Treats of the mechanical and physical properties, composition, heat treatment and commercial applications of the most important metals, with information on machining of steels and irons. British standards for metals are given in an appendix)

Metal bulletin world register of non-ferrous smelters and refineries. London, Quinn press, 1942.

Metals and alloys. 4th ed. rev. London, Cassier, 1941. (For annotation see entry under Alloys)

Quin's metal handbook and statistics, ed. by F. B. Rice-Oxley. 1946 London, Metal information bureau, 1947. (Annual)

Standard metal directory. 10th ed. N. Y., Atlas publishing co., 1947 (Comprehensive list of steel and metal manufacturers, furnaces, foundries and smelters in the U. S., together with scrap iron and scrap metal dealers, scrap steel exporters, etc.)

Meteorology:

Albright, Joseph C. Summer weather data with design data, statistics, charts, maps and technical analysis. Kansas City, Kansas, The Marley co., 1939. (Data on weather conditions for use in the successful application of water cooling equipment to industry. Invaluable to designers of heat exchange systems. Contains glossary of meteorological and related terms)

Mining:

American mining and metallurgical manual. Westminster, Colo., The Mining manual co., 1907-36. (The important operating metal mining, dredging, smelting, and refining companies of the U. S., Canada, and Mexico)

Fisher, R. D. Mining manual. N. Y., The author, 1941. (A directory of 12,000 companies producing metals and nonmetallic minerals in the U. S. and Canada. "Purpose is to give the company name, office, address and location of property of every mining company in U. S., including Alaska and Canada whether operating or idle.")

List of mines in Great Britain and the Isle of Man for the year 1938. London, H. M. Stationery office, 1939.

Mining: (cont.)

Mining manual. San Francisco, Statistical research bureau, 1936+ (Looseleaf) (Describes principal mining enterprises in North America, has glossary of mining terms, "who's who in mining," "what's what in mining equipment," maps of mining districts in western U. S., etc.)

South African mining and engineering year book and directory. Johannesburg, South Africa, Mining journal syndicate, Ltd., 192+

Naval art and science:

American bureau of shipping, N. Y., Rules for the classification and construction of steel vessels. N. Y., The bureau, 1922+ (Lists members, U. S. government representatives, officers, committees, surveyors. Gives tables of scantlings and equipment)

Brassey's naval and shipping annual . . . London, Clowes, 1898-[1932] (Articles on naval questions and naval aeronautics, followed by a reference section giving details of warships, comparative strength of navies, etc.)

Directory of shipowners, shipbuilders and marine engineers, 1947. London, Directory publishing co., Ltd., 1947

Fahey, J. C. The ships and aircraft of the United States fleet. N. Y., Ships and aircraft, 1942. (All of the ships of the United States navy are listed by name and about each is given such pertinent data as name of builder, date ordered, date launched, and date commissioned. Dimensions for propelling machinery and armament are listed for many ships)

Jane's Fighting ships. London, Sampson Low, Marston, 1898+ (Gives profiles, photographs, and details of fighting vessels of all nations. Title varies)

Mackrow, Clement and Woollard, Lloyd. The naval architect's and ship-builder's pocket book of formulae, rules and tables, 13th ed. London, Crosby, Lockwood and son, 1932. (Summarizes rules of Board of Trade and Registration societies. Admiralty test for materials, recommendations on freeboard, etc.)

Petroleum industry and trade:

East Texas oil field directory. Rev. ed. Kilgore, Texas, Wimberly report service, 1937.

Lesourd, O. Guide du pétrole, son industrie, son commerce, leurs fournisseurs. Paris, O. Lesourd, 1936? (An exhaustive guide to the various branches of the oil industry in France and the French colonies. Contains a directory of French petroleum technologists.)

Official directory of Michigan oil and gas industry - Tulsa, Okla., Oil and gas journal, 1940.

Oil and petroleum year book . . . a record of information concerning oil and petroleum companies, with lists of directors, secretaries, consulting engineers, managers, agents, etc., their names, addresses, and descriptions, and names of the companies with which they are connected . . . London, W. E. Skinner, 1915? (Particulars of 774 companies associated in any way with the oil industry)

The petroleum almanac. N. Y., National industrial conference board, 1946. (Statistics of petroleum industry in the United States and foreign countries)

Petroleum industry and trade: (cont.)

Petroleum data book. Dallas, Texas, Petroleum engineer publishing co., 1947. (Contains summary of world's petroleum industry. Historical and current data on production, drilling, refining, marketing, transportation, world prices, etc. Tables, charts, maps, graphs)

Petroleum register. N. Y., Russel Palmer, 1918+ (Lists all American and foreign oil companies, 30,000 key oil men with titles and addresses, and a professional directory of petroleum geologists, engineers and refining chemists)

Platt's refinery directory. Cleveland, W. C. Platt co., 1946.

Schwarz, R. Die erdölraffinerien der welt. Vienna, Verlag für fachliteratur, 1936. ("Comprises a detailed list of the world's petroleum refineries arranged under countries. In most cases information is given regarding the capacity, location and ownership. Statistical data of refinery output and the consumption of chemicals are included, together with a table of petroleum nomenclature in 21 languages")

Shreveport geological society. 1945 reference report on certain oil and gas fields of North Louisiana, South Arkansas, Mississippi and Alabama. Shreveport, La., Printed by Shreveport photo copy co., 1946

Photography:

Lester, Henry M. Photo-lab-index; the cumulative formulary of standard recommended photographic procedures. N. Y., Morgan and Lester, 1939+ Looseleaf.

Plastics:

Boonton molding co., N. J. A ready reference for plastics. Boonton, N. J., The company, 1943. ("A concentrated compendium of information from the buyer's angle . . . " describing and contrasting characteristics of various plastics)

British catalogue of plastics; an encyclopedia of the plastic industry for all users of plastic materials. London, The National trade press, ltd., 1947.

Plating:

Plating and finishing guidebook, ed. by Nathaniel Hall and G. B. Hogaboom Jr. N. Y., Metal industry publishing co., 1946.

Quarries:

Directory of quarries, clayworks and sand and gravel pits. London, Quarry manager's journal, 1937?+

Radio:

Federal telephone and radio corporation. Reference data for radio engineers. 2d ed. rev. N. Y., The corporation, 1946. (A compilation of engineering and material data with subject index)

Hak, Joseph. Eisenlose drosselspuln. Leipzig, K. F. Koehler, 1938. (Collection of practically all formulas in design of air core coils. German-English glossary of the more important terms. Extensive bibliography)

International register of telegraphic and trade addresses. N. Y., Telegraphic-cable and radio registrations, inc., 1930?+

International télécommunication bureau, Berne. Carte de stations côtières ouvertes à la correspondance publique, publiée par le Bureau

Radio (cont.)

de l'Union internationale des télécommunications. 4. éd. Berne, Bureau de l'Union internationale des télécommunications, 1939.

International télécommunication bureau, Berne. List of aeronautical stations and aircraft stations. 1933+

———List of broadcasting stations. 1934+

———List of coast stations and ship stations. 1933+

Standard telephones and cables, ltd., London, 1946. Reference data for radio engineers. 2d ed., enl. London, The company, 1946. ("Though primarily intended to cover the field indicated by the title, it includes a great deal of general engineering tables and data which will be of value to technicians; a few headings chosen at random indicate the diversity of subsidiary subjects covered: Water, petrol and oil weights, Greek alphabet, trade names; temperature chart of heated metals; world rainfall, etc.")

U. S. Federal communications commission. List of radio broadcast stations by frequency. Washington, 1927+

Receipts:

Bennett, Harry. The chemical formulary. N. Y., Chemical formulary co., 1933=34. Index, 1944. 8 v. (A compilation of thousands of formulas for compounding chemicals)

Hiscox, Gardner Dexter. Henley's twentieth century book of formulas, processes and trade secrets. N. Y., Norman Henley publishing co., 1945. (Contains 10,000 chemical receipts and formulas)

Refrigeration:

Air conditioning and refrigerating machinery association, inc. Properties of commonly-used refrigerants. Washington, The association, 1946.

Research:

Engineering college research association. Directory of member institutions and review of current research. Iowa City, Ia., Engineering college research council, Iowa state university, 1947. (Gives directors and other research officers, fields of research, and name of engineering research division.)

U. S. National bureau of standards. Current hydraulic laboratory research in the United States. Washington, D. C., The bureau, 1937+ (Lists organizations and individuals engaged in hydraulic research, and describes method, status, and purpose of projects)

Research, Industrial:

Association of scientific workers. Industrial research laboratories. London, Allen and Unwin, 1936. (Alphabetical list of research laboratories throughout Great Britain. Gives essential details of field of work and character of research, names of director and staff)

Engineering societies of New England, inc. Committee on industrial co-operation. Directory of the New England research agencies. Boston, The society, 1939. (Lists more than 300 private consultants, all colleges and universities in New England having laboratory and research facilities, also companies)

Industrial research. Ed. by E. N. da C. Andrade. London and N. Y., Todd publishing co., 1946. (Gives general information on world-wide scientific applications and progress. Lists names and addresses of

Research, Industrial: (cont.)

industrial laboratories and research associations, also government departments concerned with industrial research in Great Britain. Includes bibliography)

Judkins, C. J. Trade and professional associations of the United States. Washington, D. C., Bureau of foreign and domestic commerce, 1942. (Industrial series no 3) (For annotation see entry under Associations)

London. Science museum. Science library. Bibliographic series. London, The museum, 1938. No. 414. (Gives references to more than 200 articles published during 1929-37 describing industrial research laboratories)

National research council. Industrial research laboratories of the United States including consulting research laboratories. 8th ed. Washington, D. C., The council. Bulletin no. 113. 1946. (Lists 2,264 industrial research laboratories giving name, location, staff, and publications of each. An appendix lists colleges and universities which offer research service to industry. Contains subject index)

New York (State) Dept. of commerce. Directory of research and development facilities at educational institutions in New York state, available to industrial concerns. Albany, The department, 1946. (Research facilities in 58 fields of engineering and science in 26 colleges and universities are described)

U. S. National Bureau of standards. Directory of commercial testing and college research laboratories. Washington, D. C., Govt. print. off., 1942. (Contains alphabetical and geographical listings of both commercial and college research laboratories in the United States, classification of commodities tested, and nature of tests)

Safety appliances:

Best's safety directory. New York, Alfred M. Best co., 1946.

Scientific societies:

Bates, Ralph Samuel. Scientific societies in the United States, N. Y., Wiley, 1945. (Deals with the history and influence of scientific societies in the United States from the 18th century to the present time, giving the date of founding and the names of the founders. Contains comprehensive bibliography)

Boeck, Carl. Deutsche technisch-wissenschaftliche forschungsstaten. Berlin, V.D.I. verlag, 1930-31. 2 v. (Alphabetical lists of societies and their publications, research institutes, classified lists of periodicals, and a subject index)

Handbook of learned societies and institutions. Washington, D. C., Carnegie institution, 1908. Publication no. 39. (Covers whole of the continent and gives very full details. Alphabetical under geographical division. General name index)

Index generalis. Annuaire général des universités, grandes écoles . . . bibliothèques, instituts scientifiques . . . sociétés savantes. Paris, Gauthier-Villars, 1919+

International association of Japan. National committee on intellectual cooperation. Academic and cultural organizations in Japan. Tokyo, The society for international cultural relations, 1939. (Has chapter on natural and applied sciences and industry. Gives names of societies and institutions with officers, year of establishment, etc. In English)

Scientific societies: (cont.)

Lin, Mou-shêng. A guide to Chinese learned societies and research institutes. N. Y., China institute in America, 1936. (Has section on applied sciences. Gives date of establishment, activities and publications)

National research council. Handbook on scientific and technical societies and institutions of the United States and Canada. 4th ed. Washington, D. C., The council, Bulletin no. 106, 1942 (A directory of 1,269 societies, associations, and similar organizations listed by country, giving names of officers, history, object, membership, and publications of each. There is a subject and personnel index. (Section on Canada also published separately)

Pan American sanitary bureau. Sociedades e instituciones científicas e la América Latina. Washington, D. C., The bureau, 1942. (Material arranged by countries under subject. Official organs of societies and institutions are listed when possible)

Tassy, Edme and Lérís, Pierre. Les ressources du travail intellectuel en France. Paris, Gauthier-Villars et cie, 1921.

———Supplement (1921-23) 1924. (Date of establishment, organization aims, publications, professional associations, libraries)

Year-book of the scientific and learned societies of Great Britain and Ireland. London, v. 1, 1884+ (Classified with subject index. Gives corporate name, address, date of founding, object, officers, meetings, membership, titles of publications with prices and contents of publications for the year covered)

Steel:

Dauve, C. N. Steel physical properties atlas. Cleveland, O., American society for metals, 1936. (Presents in graphic form, physical properties and steels of high tensile strength as affected by composition and heat treatment)

Substitutes:

Gennett, Harry. Substitutes. Brooklyn, Chemical publishing co., 1943. (A general handbook on substitutes giving the requirements of substitutes and listing various substitutes for specific products. Comprehensive index)

Telegraph:

International register of telegraphic and trade addresses. N. Y., Telegraphic-cable and radio registrations, inc., 1930+?

Testing laboratories:

Association of scientific workers. Industrial research laboratories. London, Allen and Unwin, 1936. (For annotation see entry under Research, Industrial)

Engineering college research association. Directory of member institutions and review of current research. Iowa City, Ia. Engineering college research council, Iowa State university, 1947. (For annotation see entry under Research)

Engineering societies of New England, inc. Committee on industrial co-operation. Directory of the New England research agencies. Boston, The society, 1939. (For annotation see entry under Research, Industrial)

Industrial research. Ed. by E. N. da C. Andrade. London and New York, Todd publishing co., 1946. (For annotation see entry under Research, Industrial)

Testing laboratories: (cont.)

London. Science museum. Science library. Bibliographical series.

London, The museum, 1938. No. 414. (For annotation see entry under Research, Industrial)

National research council. Industrial research laboratories of the United States including consulting research laboratories. 8th ed. Washington, D. C., The council. Bulletin no. 113, 1946. (For annotation see entry under Research, Industrial)

Ruedy, Richard. New hydraulic laboratories and their work. Ottawa, National research council, 1938.

U. S. National bureau of standards. Current hydraulic laboratory research in the United States. Washington, D. C., The bureau, 1937+ (For annotation see entry under Research)

—Directory of commercial testing and college research laboratories. Washington, D. C., Govt. print. off., 1942. (For annotation see entry under Research, Industrial)

Trade directories:

Directory of trade directories. Chicago, Burns directory and service organization, 1936.

Trade names:

Special libraries association. Trade names index. N. Y., The association, 1941. (Contains more than 3,496 trade names arranged alphabetically. Lists sources of information on trade names and gives glossary of compilers and publishers or trade members who are constantly coining new names)

Zimmerman, Oswald Theodore, and Lavine, Irvin. Industrial research service's handbook of material trade names. Dover, N. H., Industrial research service, 1946. (Covers trade-name materials in all fields, giving information on the materials used in their manufacture. Contains directory of companies whose products are analyzed)

Universities and colleges:

Good, Carter V. A guide to colleges, universities and professional schools in the United States. Washington, American council on education, 1945. ("A comprehensive, handy reference containing accurate, up-to-date information . . . which should be particularly useful to counseling officials in the Veteran's administration and in civilian agencies and institutions")

Index generalis: Annuaire général des universités, grandes écoles . . . Paris, Gauthier-Villars, 1919+

U. S. Office of education. Educational directory. Pt. III- Colleges and universities. (Annual)

Water:

Dorsey, Noah E. Properties of ordinary water substance in all its phases. N. Y., Reinhold, 1940. (Information regarding properties of pure ordinary water-substance, water-vapor, water, and the several ices. Data assembled from the International critical tables with much non numerical information added)

Water supply:

British waterworks year book and directory. London, British waterworks association, 1936. (Waterworks undertakings in Great Britain, Ireland, and some of the British dominions)

Waxes:

Bennett, Harry. Commercial waxes, natural and synthetic. Brooklyn, N. Y., Chemical publishing co., 1944. (A handbook on waxes used in industry for the chemist, engineer and student. Contains lists of abbreviations, tables of the origins, use solubility and properties of waxes and a glossary of terms used in the industry)

Welding:

American welding society. Welding symbols and instructions for their use. N. Y., The society, 1937. (Symbols given are development of those in use in the United States and Europe)

BIOGRAPHY

Biographical dictionaries are not only useful in discovering facts about an individual's life, but are often used in tracing original sources, since many of the older, extensive works give excellent bibliographies. The current biographies, in addition, are frequently used for determining an individual's address where the locality is not known and the relevant telephone book or directory is not available. The following list should prove useful to the engineer. The publications listed are usually to be found in large libraries.

Allgemeine deutsche biographie. Leipzig, Duncker. 1875-1912 56 v. (Bibliographies)

American men of science. 7th ed. Lancaster, Pa., The science press, 1944.

Biographie universelle, ancienne et moderne. Nouv. ed. Paris, 1854-65. 45 v. (Bibliographies)

Biographisches jahrbuch und deutscher nekrolog, 1896-1913. Berlin, Reimer, 1897-1917. v. 1-18. (Bibliographies)

Chemical who's who, 1937. (v. 2) New Haven, Conn., Haynes and George co., inc., 1937.

Deutsche akademie der luftfahrtforschung. Jahrbuch . . . 1937-38. Berlin, The society, 1938. (Biographies of distinguished members)

Deutsches biographisches jahrbuch. Berlin, Deutsche verlagsanstalt, v. 1, 1914+

Dictionary of national biography. London, Smith, Elder, 1808-09. 22 v. Supplements, 1901-30. London, Oxford university press, 1912-37. 2 v. (Excellent bibliographies)

Dictionnaire de biographie française. Paris. Letouzey, v. 1, 1933+

The Engineer's who's who. 2d ed. London, Eng., Day and co., 1939.

Leaders in education. 3d ed. N. Y., Science press, 1944.

Poggendorff, Johann C. Poggendorff's biographisch-literarisches handwörterbuch. Leipzig, Barth, 1863-1904; Verlag chemie, 1925-26, v. 1-5; v. 6, 1923-31, Verlag chemie, 1936-37. (Contains references to about 8,000 scientists. Under name of person mentioned will be found practically a complete bibliography of the subject's writings)

Red book of commerce; or who's who in business; with Dod's business who's who. London, Grosvenor press, 1939.

Who's who, 1945-1946. N. Y., Macmillan, 1946.

Who's who in America. (rev. and reissued biennially) Chicago, Marquis, 1948-49.

- Who's who in American education. 1943-33. (v. 11) Nashville, Tenn.,
Who's who in education, inc., 1944.
- Who's who in aviation. 1942/43. Chicago, Ziff-Davis publishing co.,
1942.
- Who's who in British aviation, 1946-47. London, Temple press, 1947.
- Who's who in commerce and industry. 5th ed. Chicago, Marquis, 1946.
- Who's who in engineering. 1948. 6th ed. N. Y., Lewis historical pub-
lishing co., 1940.
- Who's who in plastics in the United States and Canada. 1943/44. N. Y.,
The society, 1944.
- Who's who in railroading in North America. (v. 11) N. Y., Simmons
Boardman, 1946
- Who's who in the public utilities industry. Philadelphia, Stolz, 1942.
- Who's who in transportation and communication. 1942/43. Boston,
Roosevelt and Larkin, ltd., 1943.
- Who's who in the U. S. government utility program. Washington, Pub-
lic utilities repts. inc., 1937.

MEMBERSHIP LISTS, OFFICIALS OF FIRMS, ETC.

Almost all societies and associations publish yearly membership lists. Although these contain no biographical material, they are very useful in determining addresses, the individual's society membership, etc. Membership lists may usually be obtained from the society, but they are frequently found as a section in the society's official publication. For example, the American Society for Engineering Education publishes its membership list in the February issue of the Journal of Engineering Education.

Librarians and engineers may find the following (admittedly incomplete) list useful. Since it was difficult, and in some cases, impossible, to determine the date of first issue, this information has been omitted in the entries for annual publications.

- American concrete institute, Detroit, Mich. Directory.
- American gas association, New York. Membership list.
- American institute of chemical engineers, New York. Directory of
officers and members and committee appointments.
- American institute of electrical engineers, New York. Yearbook.
- American road builders assoc., Washington. Listing of state highway
officials.
- American society for testing materials, Philadelphia. Yearbook.
- American society of civil engineers. Yearbook number [of Proceedings]
- Association of consulting chemists and chemical engineers, New York.
Classified directory.
- Australian chemical institute, Melbourne. Register of fellows, asso-
ciates and students.
- British chemical plant manufacturers association, London. Official
directory of members.
- British Columbia association of professional engineers. B. C. engineer's
year book.
- British engineers' association, London. Classified handbook of members
and their manufacturers.

- California. (Board of registration for civil engineers.) Sacramento.
Roster, civil engineers and surveyors.
- The directory of contractors and public works annual, 1938. London,
Wightman and co., ltd., 1946.
- Directory of corporations, partnerships, banks in the Boston district . . .
also a selected list of . . . architects . . . contractors . . . and engi-
neers. (v. 3, 1936) Boston, Directory publishing co., 1936.
- Directory of shipowners, shipbuilders and marine engineers (annual)
London, Directory publishing co., ltd.
- Institute of chemistry of Great Britain and Ireland, London. Official
chemical appointments.
- Institute of chemistry of Great Britain and Ireland, London. Register of
fellows, associates and students. (Latest edition to contain addresses,
1938)
- Institute of radio engineers, New York. Year book.
- Institute of the aeronautical sciences, New York. Proceedings . . .
Membership list.
- Institution of municipal and county engineers, London. Handbook.
- Institution of structural engineers, London. Year book and list of mem-
bers.
- International association of electrical inspectors, Chicago. News-bulle-
tin.
- Manual of electrical undertakings and directory of officials. London,
Electrical press.
- Mining yearbook, 1945; ed. W. E. Skinner, London, The editor, 1945.
(Lists of directors, secretaries, mining and consulting engineers,
mine managers)
- National research council, Washington, D. C. Organization and members.
- Neo-techni research corporation. "Engineers"; listing the engineers of
corporations, with their official duties and connections; contains the
most concise engineering data pertaining to every branch of engineer-
ing; directory of materials and equipment for industrial and power
plants. (5 sections in 1 v.) New York, The corporation, 1928.
- Refrigeration service engineers' society, Chicago. R.S.E.S. annual
yearbook.
- Schiffbautechnische gesellschaft, Berlin. Jahrbuch. (List of members
and particulars of societies; also a large number of technical papers)
- Structural engineers association of southern California, Los Angeles.
Year book. (Gives list of members for northern California as well)
- Universal directory of railway officials and railway year book, London,
Directory publishing co., ltd.
- Water engineers' handbook and directory. London, Colliery guardian,
1945.

ENCYCLOPEDIAS

In general an encyclopedia contains more information than just a mere definition of a word. Many compilations called "Dictionaries" are, as a matter of fact, encyclopedias, e.g., Glazebrook's "Dictionary of physics." Because encyclopedias in technology go out of date rapidly it is best to consult periodical articles or more recently published textbooks on the subject if the latest information obtainable is desired.

General:

- Desarces, Henri and others. *Nouvelle encyclopédie pratique de mécanique et d'électricité*. 3 v. Paris, Librairie Aristide Quillet, 1933.
- Esselborn, Karl, ed. *Lehrbuch des maschinenbaues*. 2—4 aufl. 2 v. Leipzig, Wilhelm Engelmann, 1926-28. (Includes such subjects as electricity, gas and water.)
- Esselborn, Karl, ed. *Lehrbuch des tiefbaues*. 6—8 aufl. 2 v. Leipzig, Wilhelm Engelmann, 1922-25. (Covers railways, bridges, canals, sea, and land work)
- Hutchinson's technical and scientific encyclopedia. N. Y., Macmillan, [1935-36] 4 v.
- Jones, Franklin D., ed. *Engineering encyclopedia*. 2 v. N. Y., Industrial press, 1943. (Very brief articles in dictionary form)
- Larousse de l'industrie et des arts et métiers, publié sous la direction de L. Guillet, avec la collaboration de M. de Toro . . . Paris, Larousse, [1935]
- Levi, Carlo. *Trattato teorico-pratico di costruzioni civili, rurali, stradali ed idrauliche*. Decima ed. 2 v. Milan, Ulrico Hoepli. v. 1, 1936; v. 2, 1938.
- Tekhnicheskaya entsiklopediya (Technical encyclopedia) ed. by L. K. Martens. [Moscow?] 1926? — (Approximately 30 vols. had been published when publication was interrupted by the war)
- Van Nostrand's scientific encyclopedia. 2d ed. N. Y., Van Nostrand, 1947.

Aeronautics:

- Burge, Cyril G. *Encyclopedia of aviation* . . . London, Pitman, 1935.
- Mancini, Luigi. *Grande enciclopedia aeronautica*. Milan, Edizione "Aeronautica" [1936]
- Royal aeronautical society. *Handbook of aeronautics*. 3 v. London, Pitman, 1938. (Includes several bibliographies and details of specifications. V. I. Compendium. V. II. Aero-engines; design and production. V. III. Design data and formulae - aircraft and airscrews.)

Automobiles:

- Dyke, Andrew Lee. *Dyke's automobile and gasoline engine encyclopedia*. 20th ed. Chicago, Goodheart-Wilcox, 1943.

Chemistry:

- Faraday, J. E. *Encyclopedia of hydrocarbon compounds*. Brooklyn, Chemical publishing co., 1946+ (Looseleaf)
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Encyclopédie de la radioélectricité. Ouvrage publié sous la direction de
Michel Adam. 3d ed. 2 v. Paris, Étienne Chiron, 1938. (English
and German equivalents are given)

Schlomann, Alfred, ed. Technologisches handbuch der elektrotechnik
und der elektrochemie: eine encyklopädie der elektrotechnik. Berlin,
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Westinghouse electric company. Electrical transmission and distribu-
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N. Y., Wise, 1941.

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Cyclopedia of drawing. 5 v. Chicago, American technical society, 1938.

Petroleum industry and trade:

Mitzakis, Marcel, ed. Oil encyclopedia. London, Chapman and Hall,
1945.

Physics:

Glazebrook, Sir Richard. Dictionary of applied physics. 5 v. N. Y.,
Macmillan, 1922-23. (Each volume has separate A—Z sequence of
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work is an attempt to be both an encyclopedia and a dictionary)

Plastics:

Plastics industries technical institute. Plastics reference library. 3 v.
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Manly, Harold P. and Gorder, L. O. Drake's cyclopedia of radio and
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Parr, G. A radio cyclopedia. London, Chapman and Hall, 1939.

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tice. 12th ed. N. Y., Simmons Boardman, 1944.

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N. Y., Simmons Boardman, 1930.

Railway engineering and maintenance cyclopedia . . . 6th ed. N. Y.,
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Railroads: (cont.)

Röll, Victor von. Enzyklopädie des eisenbahnwesens. 2te aufl. 10 v. Berlin, Urban und Schwarzenburg, 1912-23.

Rubber:

Bloc, André and Génin, Georges. Encyclopédie technologique du caoutchouc. 2 v. Paris, Rev. gén. du caoutchouc, 1938-39.

Substitutes.

Schoengold, Morris D. Encyclopedia of substitutes and synthetics. N. Y., Philosophical library, 1943.

Telephone:

Petillon, Richard. Das grosse funklexikon . . . J. Widmann, 1933-35. 2 v.

Television:

Witts, Alfred T. Television cyclopedia. London, Chapman and Hall, 1937.

Welding:

Encyclopedia of oxy-acetylene welding. 6 v. Geneva, International advisory committee for carbide and welding technique. 1932- (Explanatory text to illustrations in five languages)

The welding encyclopedia and the welding industry buyers' manual. 11th ed. Chicago, Welding engineer pub. co., 1943.

TECHNICAL DICTIONARIES

It is sometimes difficult to distinguish between technical dictionaries and encyclopedias, for frequently the former contain more than just a definition of terms and the latter, although bearing the title "encyclopedia," are essentially dictionaries. It has been said that there is no good comprehensive technical dictionary in the English language. The non-existence of such a compilation may be accounted for in part by the rapid development in the technological sciences.

In seeking a definition of a technical term in English or a foreign language it may be necessary to consult more than one dictionary. A list of these dictionaries follows:

General: (English)

Beadnell, Charles M. Dictionary of scientific terms as used in the various sciences. London, Watts, 1942.

Beadnell, Charles M. Encyclopaedic dictionary of science and war. London, Watts, 1943.

Brown, Victor Jacob and Runner, Delmer G. Engineering terminology. 2d ed. Chicago, Gilette pub. co., 1939.

Chambers' technical dictionary. Rev. ed. N. Y., Macmillan, 1944.

Crispin, Frederic S. Dictionary of technical terms. 4th ed. Milwaukee, Wis., Bruce pub. co., 1942.

Henderson, Isabella Ferguson, and Henderson, William Dawson. A dictionary of scientific terms. Edinburgh, Oliver and Boyd, 1939.

Howell, Almonte C. Handbook of English in engineering usage. 2d ed. N. Y., Wiley, 1940.

General: (English) (cont.)

Kurtz, Albert Kenneth, and Edgerton, H. A. Statistical dictionary of terms and symbols. London, Chapman and Hall, 1940.

Newmark, Maxim. Illustrated technical dictionary. N. Y., Philosophical library, 1944.

Sandy, A. H. Dictionary of engineering and machine shop terms. London, Lockwood, 1943.

Uvarov, Eugene B. Dictionary of science. N. Y., Penguin, 1943.

General: (Polyglot)

France, Ministère du travail et de la prevoyance sociale, Répertoire technologique des noms d'industrie et des professions. Paris, Editions Berger-Levrault, 1909. (French, English, German)

Holtzmann, Otto. Polyglot dictionaries based on the "one-language" system. General technical terms: (English, French, German) London, Technical press, 1937. 3 v.

Hoyer, Egbert von and Kreuter, Franz. Technologisches wörterbuch. 6 aufl. Berlin, Springer, 1932. 3 v. (German, English, French)

Illustrated technical dictionary in six languages. Berlin, Technische wörtenbücherverlag, 1906-1932. 17 v. (New edition of v. 1- "Illustrierte technische wörtenbücherverlag") (English, French, Russian, Italian, Spanish)

Lubowsky, Kurt. Handbook on technical export. Berlin, Hermann Wendt, 1931. (Serves as a German, English, French, Spanish dictionary)

Newmark, Maxim. Dictionary of science and technology. N. Y., Philosophical library, 1943. (English, French, German, Spanish)

Offinger, H. Pocket technological dictionary in three languages. 10th ed., Rev. London, Allen and Unwin, 3 v. (English, German, Spanish)

Real, P. B. Vocabolario de termos técnicos. Lisbon, n.p., 1946? (Portuguese-French-English)

Scharroo, P. W. Technisch woordenboek in vier talen. Amsterdam, N. V. Uitgevers-maatschappij voorheen van Mantgem and de Does, 1925-29. 4 v. (Dutch, German, English, French)

Sell, Lewis L. Practical polyglot technical lexicography. N. Y., Vanni, 1943.

Slater, Ernest and others. Pitman's technical dictionary of engineering and industrial science in seven languages. London, Pitman, 1928-40. 20 pts. (English, French, Spanish, Italian, Portuguese, Russian, German)

Tolhausen, Alexander, ed. Technologisches wörterbuch. Leipzig. Bernhard Tauchnitz, 1926-29. 3 v. (French, German, English)

Wentholt, L. T. Illustrated technical dictionary. Brussels, International association of navigation congresses, 1939. (Is being published in chapters, e.g., Chapter II: Rivers, streams, canals. French, German, English, Spanish, Italian, Dutch)

Wleklński, Jan and others, eds. Słownik techniczny w czterech językach. Warsaw, Księgarnia techniczna; Paris, Beranger, 1937. (English, Polish, French, German) 2 v.+

General: (Bilingual)

Belkind, L. D. English-Russian polytechnical dictionary. Moscow, 1946.

General (Bilingual) (cont.)

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- Buzzoni, H. A. Dicionário de termos técnicos, inglês- português. São Paulo, Edições LEP, 1947.
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- Cusset, Francis. English-French, French-English technical dictionary. Brooklyn, Chemical publishing co., 1946.
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- Denti, Renzo. Dizionario tecnico italiani-inglese, inglese-taliano. Milan, U. Hoepli, 1946.
- Deutsch-ungarisches and ungarisch-deutsches technisches wörterbuch. Budapest, Mano Dick, 1930. 2 v.
- Fujita, Nintaro, ed. Kenkyusha's English-Japanese dictionary of commercial and technical terms. South Pasadena, Calif., P. D. and Ione Perkins, 1944.
- Glodowski, Bruno. Russisches wehrwörterbuch. Hamburg, Hanseatische verlag, [1940] (Russian, German)
- Guinle, R. L. A modern Spanish-English and English-Spanish technical and engineering dictionary. London, Routledge; Brooklyn, Chemical publishing co., 1938.
- Jindra, Jan. Tschechisch-deutsches und deutsch-tschechisches technisches wörterbuch aller fächer. 4 aufl. Prague, Nakladatel E. Weinfurter, 1928. 2 v.
- Kettridge, Julius O. French-English and English-French dictionary of technical terms and phrases. N. Y., Wilson, 1925. 2 v.
- Korenblit, A. Deutsch-russisches technisches wörterbuch. 3 aufl. Leningrad, Staatlicher chemisch-technischer verlag, 1928-33. 8 v.
- Lvoff, Mark. The engineers' technical dictionary. (English, French) London, Spon, 1931.
- Perol, Guerrero A. Nuevo diccionario tecnico-commercial. Brooklyn, Chemical publishing co., 1942. (Spanish, English)
- Ponce de Leon y Laguardia, Néstor. Technological dictionary. N. Y., Isaac Mendoza, 1939. (Spanish, English)
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- Robb, Louis A. Vocabulario técnico. Princeton, N. J., Princeton university press, 1936. (Spanish, English)
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General: (Bilingual) (cont.)

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- Stadtmüller, K. Technisches wörterbuch. Posen, Poland, Nakładem wydawnictwa słownika technicznego polsko-niemieckiego, 1936. 2 v. (German, Polish)
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General: (Dutch)

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General: (German)

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Gt. Brit. Military college of science. School of tank technology. Provisional German-English dictionary of automotive engineering. Surrey, England, The author, 1945.

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Vocabulary of terms used in hydraulics and irrigation. Buenos Aires, Establecimiento gráfico Tomas Palumbo, 1933. (English, Spanish. Translation of the official glossary of the American society of civil engineers)

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- Callendar, G. S. and Egerton, Alfred C., eds. The 1939 Callendar steam tables, 2d ed., with new appendix on properties of compressed liquid water. London, E. Arnold and company, 1944. (For the British electrical and allied industries research association)
- Callendar, G. S. and Egerton, Alfred C. The 1939 heat-entropy diagram for steam. London, E. Arnold and company, 1939. (Total heat and entropy tables have been computed by interpolation from the smoothed differences between the experimental results and former tabular values. Specific volume values have been similarly obtained, but they are based on those values adopted at the Third International Steam Table Conference)
- Callendar, G. S. and Egerton, Alfred C. The 1939 steam tables. London, E. Arnold and company, 1939. (These steam tables are based on direct measurements of total heat made since the Third Steam Conference held in New York in 1934)
- Ellenwood, Frank O. and Mackey, C. A. Thermodynamic charts, steam, water, ammonia, Freon-12, and mixtures of air and water vapor. N. Y., Wiley, 1944. (New chart has been added to this edition giving the properties of low quality steam)
- Keenan, Joseph H. and Keyes, Frederick G. Thermodynamic properties of steam. N. Y., Wiley, 1936. (2d ed. of Steam tables and Mollier diagram, 1930) (Tables are computed from entirely new formulations of the properties of water. Includes tables giving viscosity, the heat conductivity, compressed liquid properties, data on ice and its vapor, isentropic expansion exponents, and certain thermometric calibration data as well as temperature-scale conversion table, logarithm tables and conversion factor tables of the 1930 ed.)

Surveying:

- Reasonover, John Roy Land measures; French, Spanish and English land measures of the United States and Canada, with units, English equivalents, reduction and conversion factors. Houston, Texas, Priv. print., 1946.
- U. S. War department. Surveying tables. (Technical manual no. 5-236) Washington, D. C., Govt. print. off., 1940. (Contains logarithms, sines, cosines, elevations above sea level from barometer readings, conversion tables, etc.)

Temperature:

- U. S. National bureau of standards. Temperature interconversion tables ($^{\circ}\text{C} \leftarrow \rightarrow ^{\circ}\text{F}$) and melting points of the chemical elements. Washington, D. C., Govt. print. off., 1937. (Miscellaneous publications M-126.)

Thermocouples:

- Leeds and Northrup company, Philadelphia. Standard conversion tables for L and N thermocouples. Philadelphia, The company [n.d.]

Tides:

- Anglo-American oil company. Time, tide and distance tables. London, The company, 1937. (For annotation see entry under Distance)
- Doodson, Arthur T., and Warburg, Harold D. Admiralty manual of tides. London, H. M. Stationery office, 1941.

Time:

- Anglo-American oil company. Time, tide and distance tables. London, The company, 1937. (For annotation see entry under Distance)

Tubes

Summerhill tubing company. Aircraft tubing data. Bridgeport, Penn., The company, 1936. (Government specifications, tables of tube properties, areas and circumferences of circles, decimal and metric equivalents of parts of an inch, conversion and interconversion tables, etc.)

Vapor pressure

Dow chemical company. Physical research laboratory. Table of vapor pressure—temperature charts. Ed. Robert R. Dreisbach, 2d ed. Midland, Mich., The company, 1946. ("A reference volume for reading directly the boiling point corresponding to the pressures used in vacuum distillation for seventeen families of organic chemical compounds.")

Volumetric analysis

U. S. National bureau of standards. Standard density and volumetric tables. 6th ed. Washington, D. C., Govt. print. off., 1924. (Contains standard density tables and others of a similar nature most often required in physical and chemical laboratories)

Water pipes

Crimp, William Santo and Bruges, C. Ernest. Tables and diagrams for use in designing sewers and water mains, rev. . . . 2d ed. London, The Belchi press, 1936

Wave length tables. See Spectrum analysis.

MANUFACTURERS' DIRECTORIES

The engineer and the technical librarian will often have to find the name of the manufacturer of a particular piece of machinery or equipment. The following list may be of some aid in obtaining the desired information. The most important compilations for an engineering library are starred. No dates are given for annual or biennial compilations.

General:

- * American society of mechanical engineers. Mechanical catalog and directory. N. Y., The society. (Includes section on publications of the society)

Associated equipment distributors. List of members and the manufacturers they represent; also manufacturers' list and their distributors in A.E.D. Washington, D. C., The author, 1946.

British industrial publicity overseas, ltd. Annual directory of British industry and engineering. London, The author. (In Russian. Directory of British firms)

Directory of manufacturers of Australia. Sydney, N.S.W., C.E.S. Turner and sons.

Directory of Merseyside manufacturers. Liverpool, Liverpool organization ltd.

"The Engineer" directory and buyers' guide. London, The Engineer.

Engineering institute of Canada. The E. I. C. engineering catalogue. Montreal, The institute, 1937. (Information has been furnished by some 3,900 firms)

Federation of British industries. F.B.I. register of British manufacturers (including list of trade associations.) London, 1940.

General: (cont.)

- * Kelly's directory of merchants, manufacturers and shippers of the world. London, Kelly's directories, ltd.
- Kelly's directory of the engineering, hardware, metal and motor trades. London, Kelly's directories, ltd.
- Machine design. Directory of materials. Cleveland, O., The periodical.
- MacRae's blue book with Hendrick's commercial register. Chicago, MacRae's blue book company.
- Mechanical world year book. Manchester, England, Emmott and company.
- Oil, paint and drug reporter. Greenbook who's who. N. Y., Oil paint and drug reporter, 1913—(Pt. 3 lists engineers, chemists, and technical and commercial services)
- Plant production directory. Chicago, N. Y., etc., Industrial directories, inc.
- Sell's directory of registered telegraphic addresses. London, Business directories, ltd. ("The information is so comprehensive it can be regarded as a directory of some 100,000 firms in Great Britain and Ireland.")
- Stubb's directory; Manufacturers, merchant shippers and professional. (British and foreign) 1943-45. London, Stubb's directories, 1945.
- Sweet's file. N. Y., Sweet's catalog service. (Issued in parts: Engineering; Mechanical industries; Power plants; Process industries; Architecture)
- Tait's engineering directory. Melbourne, Tait publishing co.
- * Thomas' register of American manufacturers. N. Y., Thomas publishing co. (The most valuable directory for American libraries)
- Western states A-E-C catalog file. Los Angeles, Times-Mirror co. ("An indexed file of manufacturers' catalogs, designed especially for western architects, engineers and contractors.")

Agricultural machinery.

Farm implement news. Buyers' guide. Chicago, The periodical.

Air conditioning:

Refrigeration and air conditioning directory. Detroit, Business news, 1942.

Airplanes and accessories:

- Aircraft year-book. N. Y., Aeronautical chamber of commerce of America, inc. (Has directory of aircraft, aircraft engine, and equipment manufacturers)
- American aviation directory. Washington, D. C., American aviation associates, inc.
- Aviation equipment red book. N. Y., Haire publishing co.

Alloys:

Directory of manufacturers, fabricators and distributors of nickel alloy steel products. N. Y., International nickel co., inc.

Automobiles:

Reichsverband der kraftfahrzeugteile-industrie. R.K.I. Mitgleiderverzeichnis und bezugsquellennachweis. Berlin; Charlottenburg, The

Automobiles. (cont.)

author, 1939. (Lists German manufacturers and suppliers of parts and accessories for motor vehicles. Includes dictionary in three languages and a list of 'trade marks')

Building:

Kelly's directory of the building trades. London, Kelly's directories.

Ceramics

Adressbuch der keram-industrie in Deutschland, Danzig, Österr., Belgien . . . Coburg, Müller und Schmidt, 1937. (Also gives details on educational institutes, research associations, etc.)

Adressbuch der glas- und keram-industrie der Tschechoslowakei. Haida, J. F. Rimpler und O. J. Vogel, 1926.

Ceramic association of New York. New York ceramic directory. Alfred, N. Y., The association.

Ceramic data book, with catalogs and buyers' directory of equipment and materials. Chicago, Industrial publications, inc.

Ceramic trade directory. Newark, N. J., The ceramics publishing co., inc.

Chemicals and chemical engineering equipment:

Association of British chemical manufacturers. British chemicals and their manufacturers. London, The association, 1939. (New ed. in preparation)

British chemical plant manufacturers' association. British chemical plant . . . The official directory of the British chemical plant manufacturers' association. London, The association. (Includes trade names and trade marks)

Buyers' guide of chemical industries. New Haven, Conn., The Haynes and George co., 1938.

Chemical engineering catalog. N. Y., Chemical catalog co. (Has technical and scientific book section)

Chemical manufacturers' directory of England, Wales and Scotland. London, Newnham, Cowell and Gripper.

Chemists' year book. Brooklyn, Chemical publishing co., inc.

Griffin and Tatlock, ltd. A catalogue of modern chemical apparatus. London, The company, 1939.

Les industries chimiques Belges. Rev. ed. Brussels, Haleet, 1937. (Includes recognized laboratories, suppliers of material, technical publishers and has supplementary indexes in Flemish, English, German, and Spanish)

Kelly's directory of the chemical industries in England, Scotland and Wales. London, Kelly's directories, ltd.

Otto Wenzel's adressbuch und warenverzeichnis der chemischen industries des Deutschen Reichs. Berlin, Urban und Schwarzenburg, 1937.

Where to buy everything chemical: an index to the principal sources of supply of chemicals, chemical plant and apparatus. London, "Where to buy," 1943.

Coal:

Colliery year book and coal trades directory. London, L. Cassier.

Coal (cont.)

Keystone directory for coal buyers. N. Y., McGraw-Hill catalog and directory co., 1933-34.

O'Connell's coal trade directory and manual. London, Harper and co.

Reid's handy colliery guide for Northumberland, Durham, Yorkshire, Cumberland and Westmoreland. Newcastle-upon-Tyne, England, A. Reid and co., 1938.

Ryland's directory. London, Iron and coal trades review. (Lists manufacturers of commodities used by heavy industries; trade marks)

Concrete:

Concrete year book. Handbook, directory and catalog of concrete. London, Concrete publications. 1940+

Dyes and dyeing:

The dyers index. A guide to sources of supply for plant and materials in the dyeing, bleaching, finishing, and textile printing industries. London, Heywood and company, 1939.

Electrical equipment:

Blue book, 1940. The electrical trades directory and handbook. London, Benn, 1940.

E M F electrical year book; an encyclopedia of current information about each branch of the electrical industry with a dictionary of electrical terms and a classified directory of electrical and related products and their manufacturers in U. S. and Canada. Chicago, Electrical trade publishing co., 1921-26.

Tait's electrical directory of Australia and New Zealand. Melbourne, Tait publishing co., ltd.

Enamel and enameling.

Enamel trade directory. Newark, N. J., Ceramic publishing co.

Firearms:

Satterlee, Leroy D. and Gluckman, Arcadi. American gun makers. Buffalo, N. Y., Ulbrich, 1940.

Food:

Food industries catalogs and directory. N. Y., Food industries.

Fuel trade:

Combustion appliance makers' association. The black book; a directory of solid-fuel burning appliances and associated equipment. London, Morgan bros., 1937.

Gas:

"Gas journal" calendar and directory. London, Walter King, ltd. (Contains directory of advertisers and a buyers' guide)

Glass:

Adressbuch der glas- und keram-industrie der Tschechoslowakie. Haida, J. F. Rimpler and O. J. Vogel, 1926.

Adressbuch der glasindustrie in Europa: Deutschland, Danzig . . . Coburg, Müller und schmidt, 1936. (List manufacturers of glass products in European countries. All branches of the industry are included)

Glass: (cont.)

Directory for British glass industry. Sheffield, England, Society of glass technology, Univ. of Sheffield, 1934.

Directory of glass factories in the United States and Canada, 1945. Pittsburgh, Budget publishing co., 1945.

Glass factory year book and directory. Pittsburgh, American glass review. (Complete data on manufacturers in the United States and Canada)

Pottery gazette and glass trade review. Pottery gazette and glass trade review diary and trade directory. London, Scott, Greenwood and son, 1927-33.

Metals:

Metal industry handbook and directory. London, L. Cassier. (Available only to subscribers of Metal industry)

Standard metal directory. 10th ed. N. Y., Atlas publishing co., 1947. (Comprehensive list)

Mining:

Rhodesian mining year book. Johannesburg, Mining journal syndicate, ltd. (Has manufacturers' who's who)

Paper

Directory of paper makers of Great Britain and Ireland. London, Mar-chant, Singer and co.

Paper trade diary directory of Great Britain, India and the Dominions. London, Trade journals, 1945.

Paper makers' directory of all nations. London, Dean and son, 1942.

Post's paper-mill directory. N. Y., L. D. Post, inc.

Petroleum:

Composite catalog of oil field and pipe line equipment. Houston, Texas, Oil weekly.

Producing equipment directory. Tulsa, Okla., Petroleum directory publishing co.

Plastics

Deutsches jahrbuch für die industrie der plastischen massen. Berlin; Wilmersdorf, Verlag W. Pansegrau, 1937. (Directory of trade names and German sources of supply of materials and equipment. Has bibliography)

Modern plastics. Year book and directory issue. N. Y., The periodical.

Radio:

Chambre syndicale des industries radio-electriques. Annuaire des industries radio-electriques. Paris, Etienne Chiron.

Parts jobber yearbook and directory of manufacturers' representatives. N. Y., Kolpar publications, inc.

"Radio and electrical marketing". Radio marketing trade annual. London, The author. (Has a who's who section) (1922-1939 Merged into Electrical trading and radio marketing.)

Radio (cont.)

Radio master encyclopedia. 9th ed. N. Y., United catalog publishers, inc., 1942. (Classified directory of more than 1,000 manufacturers of various radio parts and allied equipment; trade marks and trade names)

Radio trade annual of Australia . . . and service manual. Sydney, Australian radio publications.

Trades yearbook for the radio and electrical trades. London, Trader publishing co.

Refractory materials:

American refractories institute. Directory of the refractories industry. 9th ed. Philadelphia, The institute, 1934.

Refrigeration

Handbook of British refrigeration material and refrigeration catalogue. 2d ed. London, Cold storage and produce review, 1939. (Index of refrigeration materials and their manufacturers)

Refrigeration and air conditioning directory. Detroit, Business news, 2d ed, 1946.

Roads:

Powers' road and street catalog and data book. Chicago, Gillette publishing co. (Consolidation of manufacturers' catalogs of materials)

Rock products:

Directory of the rock products industry. Chicago, Tradepress publishing corp., 1929. (Includes machinery and supplies)

Rubber:

Rubber index: a directory of the rubber industry and allied trades. London, Rubber age, 1939. (Alphabetical list of British manufacturers and suppliers of rubber chemicals. Has list of trade names)

Rubber red book; directory of the rubber industry. N. Y., Rubber age.

Soap:

Blue book and catalog for the soap, insecticide, disinfectant and allied industries. N. Y., MacNair-Dorland co., inc.

Soap makers' directory. London, Simpkin Marshall, 1942.

Textiles and fabrics:

Cotton trade directory of the world. London, Skinner, 1945.

Rayon and silk directory and buyers' guide of Great Britain. London, Harlequin press co., ltd. (Includes world producers of rayon and all artificial fibers)

Textile world. Official American textile directory. N. Y., McGraw-Hill (Really a catalog of textile machinery, equipment and supplies)

Wire:

Wire and wire products buyers' guide and year book of the wire association. 10th ed. N. Y., Quinn-Brown publishing co.

Bibliography:

A directory of trade directories. Chicago, Burns directory and service organization, 1936.

Business information sources; bulletin of the Business information bureau, Cleveland public library. Cleveland, Cleveland public library Bulletin, v. 17, no. 3, November 1946. (State and regional directories)

U. S. Dept. of commerce. American business directories. 2d ed. Washington, D. C., Govt. print. off., 1947. (Arranged by subject and region)

VI. THE TRADE CATALOG COLLECTION

A good technical library will maintain a file of trade catalogs and manufacturers' instruction books for machinery and equipment, the type and size of the collection depending upon the interests of the library and its patrons.

An excellent guide to this very important type of collection is provided by Miss Granville Meixell's "Trade catalog collection; a manual with source lists" published by the Special libraries association in 1934. Miss Meixell gives suggestions as to the organization of a trade catalog collection, and lists some important manufacturers' catalogs considered as handbooks, periodicals with lists of current trade catalogs, and house organs. All technical libraries should have this invaluable reference tool.

In the Engineering Library of the University of California trade catalogs are requested according to the needs of the library. In addition, general catalogs of the larger companies are kept, and, in many cases, catalogue as part of the regular book collection along with those publications which can be used as handbooks.

In general, trade catalogs are filed under large subjects in a vertical file and an index to companies is maintained separately. This index gives the name of the company and indicates under which subject their catalog is to be found in the vertical file. No titles are given, nor are subject or shelf-list cards made. This method has the advantage of simplicity in a library where time is an important factor, but it has a real disadvantage in that it is impossible to take inventory, replacements being made only when a requested item is found missing.

Thomas' register is used to supplement the large general subject-headings in the vertical file and also as a guide to trade catalog selection.

To do justice to this type of collection a professional member of the staff who would give his entire time to the project should be employed and adequate space provided for this important reference section of a technical library.

VII. STANDARDS AND SPECIFICATIONS

Standards, codes, and specifications present a problem to libraries, since they are so numerous and since there is no one agency, national or international, responsible for all of them. Among issuing bodies are associations, societies, manufacturers, government agencies, etc. It would be impractical, if not impossible to list all of them here.

A recent development is the formation of the United Nations Standards Co-ordinating Committee, the object of which is to promote the maximum possible co-ordination and unification of national standards. Presumably this organization will carry on the work of the League of Nations International Standards Association.

A list of the present national standardizing bodies follows: (List supplied by the American Standards Association)

American Standards Association
P. G. Agnew, Tech. Director and Secretary
70 E. 45th St.
New York 17, N. Y.

Instituto Argentino de Racionalización de Materiales
Ing. M. A. Ceriale, Director
Chile 1192
Buenos Aires, Argentina

Standards Association of Australia
Mr. W. Rayner Hebblewhite, Director
Science House, Gloucester and Essex Streets
Sydney, Australia

Oesterreichischer Normenausschuss
Ing. Wallner, Manager
Am Heumarkt 10
Vienna III, Austria

Institute Belge de Normalisation
Mr. M. Reichert, Director
63 Rue Decale
Brussels, Belgium

Associação Brasileira de Normas Técnicas
Dr. Paulo Sá, Diretor da Secretaria
Caixa Postal 1680
Rio de Janeiro, Brazil

Canadian Standards Association
Col. W. R. McCaffrey, Director
Room 3010 National Research Building
Ottawa, Canada

Instituto Nacional de Investigaciones Tecnológicas y Normalización
Ing. Francisco Mardones O., Director
Moneda 1020—Piso 4°
Santiago, Chile

Chinese Standards Committee
Ministry of Economic Affairs
Mr. S. T. Shang, Secretary-General
Shiah Fu Chiow
Nanking, China

Československá Společnost Normalisační

Mr. F. Juliš, Secretary

Dum Inženýrů (SIA)

Prague 1, Czechoslovakia

Dansk Standardiseringsraad

Mr. H. E. Glahn, Secretary

Vesterbrogade 1A

Copenhagen V, Denmark

Finlands Standardiseringskommission

Mr. A. Willberg, Secretary

Hamngatan 4

Helsingfors, Finland

Association Française de Normalisation

Mr. E. Lhoste, Director General

23 Rue Notre-Dame des Victoires

Paris 2^e, France

British Standards Institution

Mr. P. Good, Director

28 Victoria St.

London S.W.1, England

Technical Chamber of Greece

4 Kolokotroni St.

Athens, Greece

Magyar Szabványügyi Intézet

Mr. G. Kerekgyarto, Director

Szilagyi Dezső-tér 6

Budapest II, Hungary

The Indian Standards Institution

J. D. Kapadia, Esqr., I.C.S.

Deputy Secretary to the Govt. of India

Department of Industries and Supplies

Jaisalmir House, Man Singh Road

New Delhi, India

Ente Nazionale per l'Unificazione nell'Industria

Piazza Diaz 2

Milan, Italy

Dirección General de Normas

Secretaría de la Economía Nacional

Ing. Ignacio Aguerrebere, Director

Filomeno Mata 10

Mexico D.F., Mexico

Hoofdd commissie voor de Normalisatie in Nederland

Centraal Normalisatiebureau

13a Lange Houtstraat

The Hague, Holland (Netherlands)

New Zealand Standards Institute

Mr. L. J. McDonald, Secretary

3rd Floor, Hamilton Chambers

201 Lambton Quay

Wellington, C.1, New Zealand

Norges Standardiserings-Forbund

Mr. Kaare Heiberg, Director

Kongens Gate 14

Oslo 5, Norway

The Standards Institution of Palestine

Mr. A. Arnstein, Director

200 Dizengoff Rd.

Tel Aviv, Palestine

Polski Komitet Normalizacyjny

Mr. Cz. Szczekowski, General Secretary

ul. Pierackiego 2

Warsaw, Poland

Commission Roumaine de Normalisation

27 Rue Al. Lahovari

Bucarest III, Roumania

South African Standards Institution

The Secretaries

The Associated Scientific and Technical Societies of South Africa

Kelvin House, Cor. Marshall and Hollard Streets

Johannesburg, South Africa

Sveriges Standardiseringskommission

Mr. Folke Lindgren, Director

Brunkebergstorg 12

Stockholm 16, Sweden

Association Suisse de Normalisation (SNV)

Mr. Willi Kuert, Manager

General Wille-Strasse 4

Zurich 2, Switzerland

Instituto Uruguayo de Normas Técnicas

Ing. Juan P. Molino, Presidente

Agraciada 1464 - Piso 9

Montevideo, Uruguay

All-Union Standards Committee

Tverskoy Bulevar, 18

Moscow, U.S.S.R.

Commercial Attache

Yugoslav Embassy

Washington, D. C.

(Official contact until A.S.A. receives name and address of new Standards Committee in Yugoslavia. The standards sent are marked. "For; Yugoslav Committee for Standards.")

The following compilations will serve as indexes to standards and specifications. The price lists of the American Standards Association, the American Society for Testing Materials, the American Society of Mechanical Engineers, the Monthly Information Sheet of the British Standards Institution and Industrial Standardization, a monthly periodical published by the American Standards Association will supplement these publications.

American society for testing materials. Index to A.S.T.M. Standards. Philadelphia, The society, 1935+

Association française de normalisation. Catalogue des normes et documents homologues par le comité supérieur de normalisation. 8^e ed. Paris, The association, 1937.

British standards institution. Handbook of British standards.

London, The institution, 19?+ (Includes indexed lists of British standard specifications)

British standards institution. British standards yearbook, 1944-45.

London, The institution, 1945. (Has alphabetical list and synopsis of each British standard)

British standards institution. Monthly information sheet. London, The institution, 1926?+ (New and revised British standards listed, new work started and new overseas standards available in the B.S.I. library)

Deutscher normenausschuss. DIN Normblatt-verzeichnis. Berlin, Beuth-Verlag, 1926+ (Catalog of specifications, definitions, practices, and other standards issued by German standardizing bodies through Deutscher normenausschuss. Classified according to Universal decimal classification. Numerical list and index)

Index of United States army joint army-navy and federal specifications used by the War department. January 1946. Washington, D. C., Govt. print. off., 1946. (Has monthly supplements)

Industrial standardization. N. Y. 1930+ (Contains section on new American standards and new standards from other countries now available in the A.S.A. library)

U. S. National bureau of standards. National directory of commodity specifications. Rev. ed. Washington, D. C., Govt. print. off., 1945. (Misc. pub. M178) (Lists standards and specifications of trade associations, technical societies, and organizations that are of national significance, as well as standards and specifications of governmental agencies that represent the federal government as a whole. Specifications arranged under Decimal classification. Has subject index and lists names and addresses of standardizing agencies)

Other references:

Gaillard, John W. Industrial standardization. N. Y., H. W. Wilson, 1934. (A general discussion of the subject)

British standards institution, London. Report on work accomplished. 1, 1901+

London, Science museum. Science library. Bibliographical series #34. Engineering standards. (A list of bodies issuing standards)

Maily, Jacques. La normalisation. Paris, Dunod, 1946. (A detailed study. Includes list of standardization activities in 19 countries.)

Martino, Robert A. Standardization activities of national technical and trade organizations. Washington, D. C., Govt. print. off., 1941 (Bureau of standards, Misc. pub. M169) (Outlines activities and accomplishments of 450 American societies and associations. Listed alphabetically with addresses. Contains bibliography on standardization)

U. S. National bureau of standards. Bibliography on standards. Washington, D. C., Govt. print. off., 1932. (Misc. pub. 136) ("Comprises supplementary references to the recent literature on standardization. given in [Standards yearbook], covering the general history and practice of standardization, but not the literature on specific commodities.")

U. S. National bureau of standards. Standards yearbook. Washington, D. C., Govt. print. off., 1927-33. 7 v. (Full information about American agencies. Includes descriptions of those of other countries)

